



BEVAN... "Anyone will be able to get in on IBM user base."

'Appalling record' on enforcing standards

by Kevin Cahill

THE track record of existing suppliers in implementing standards is appalling, according to Mike Bevan, managing director of network supplier Kionics.

Bevan, speaking at the London branch of the British Computer Society, said he knew of no existing data processing standard for which there was not a subset, a superset and several dialects.

For these and other reasons Bevan said that open systems architectures would not exist as a usable entity for five to seven years.

"Nobody expects the complete

'book' of open systems standards to be available for three more years, with a further three years to implementation," according to Bevan. Those views will be seen as distinctly dampening in a sector of the DP industry where, by Bevan's own admission, hyperbole far exceeds performance.

While generally seeing big suppliers as the major roadblock to common standards, Bevan queried IBM's interest in seeing truly open systems arrive.

"When open systems are really here, you will open up IBM even more; anyone will be able to get in on the IBM user base."

Easing the move to office automation

by Donald Kennett

NORTHERN Telecom has announced a series of moves designed to make it as easy as possible for both users and manufacturers to plan office automation systems around its SL-1 digital telephone and data exchanges.

The company is now selling the specification of the digital transmission path through its exchange so that terminals and computers can be connected without modems, carry the minimum overhead in call set-up procedures and communicate at the highest data rate used internally in the exchange.

It has also announced specific agreements with Digital Equipment and Sperry Univac to collaborate on the design of future equipment interfaces. And it has announced a five-year \$1 billion development programme in open protocols for a growing range of communications including voice, data, image and eventually moving video - all of which will be designed to handle a wide range of types and makes of equipment.

Within three years existing wiring from telephone handsets will be able to carry data at 1 Mbit per second for simultaneous voice and data conferencing and for voice, text and image multi-media messaging services based on Northern Telecom devices.

Northern claims that the Displayphone it launched last year was the first combined voice and data terminal on the market. It also claims its SL-1 PABX is the most successful in the world, with a total of two million lines installed in 40 countries.

And that its DMS-100 range of digital public exchanges, which will be included in its open protocol development programme, is the most successful in North America.

The company also plans to develop gateways to proprietary local area networks, X25 public packet switching networks and private networks based on IBM's SNA.

The open approach taken by Northern Telecom parallels an increasing demand from users for standard interfaces.

£120m ultimatum for Olivetti

by Jack Gee

FRANCE'S Minister for Industry and Research has told Carlo de Benedetti, vice-chairman and managing director of Olivetti, to buy back the 33% stake in his company held by State-owned Saint Gobain or sell out the rest of the equity to the French conglomerate, industrial sources said in Paris.

Olivetti would have to raise £120 million to repurchase Saint Gobain's holding. The surrender of the Italian company to French control is ruled out, the sources added.

De Benedetti is now looking into the possibility of Saint Gobain's stake being transferred by the French government to another nationalised concern. The telephone exchange manufacturer CIT-Alcatel is widely mentioned in this context.

France's Socialist government has already compelled Saint Go-

bain to sell its 20% stake in Honeywell Bull, which is now 80% State-controlled, in the framework of a policy to exclude the glass conglomerate from the electronics industry.

Olivetti is becoming increasingly impatient with the slowness of the French government in working out its overall electronics strategy on which the Italian firm's future in France now depends.

De Benedetti has told Jean-Pierre Chevènement, the French Minister for Industry, that Olivetti will not tolerate any interference by the French government and has the right under Saint Gobain's purchase deal of 1980 to repurchase its shares if these were up for transfer.

The Olivetti chief said recently that he had reached an agreement with the French government on the principle of co-operation in the development of office communica-



De BENEDETTI... "I will tolerate State interference."

tion systems. But details still have to be worked out, de Benedetti added.

The French government is expected to obtain access to the Italian market for French line and electronic telephone exchange communications.

De Benedetti said: "CIT-Alcatel is certainly the best in Europe a telephone switching system. But I'm afraid an arrangement on these lines between France and Italy is unlikely."

Thomson-Grundig merger aims for powerful European grouping

by Jack Gee

THOMSON-BRANDT and Grundig last Friday put the finishing touches to an agreement which could reshape the entire European electronics and computer industry by creating a major new grouping.

The French State-owned firm took a 74.5% stake in Grundig, whose remaining 24.5% of equity is held by Philips. Agreement by Philips, which has prior call on Grundig shares now available, was regarded as certain.

The immediate objective of the Thomson-Grundig merger is to establish a powerful front in Europe against the assault by Japanese electronic consumer goods, particularly video cassette recorders.

France recently introduced customs curbs on imports of video recorders, and these have caused custom warehouses to fill up not only with Japanese products but

with those from Philips and Grundig factories which account for 10% of French sales.

But the three companies involved clearly look forward to closer co-operation in other fields of research, development and marketing in which computer components will be a key part.

The West German anti-cartel organisation is expected to give its blessing to the Thomson-Grundig alliance because it is worried about the fate of the national electronics industry following the collapse of AEG-Telefunken.

Thomson's move into Germany coincides with its success in France, in extending its hold on the components industry.

It has obtained State approval to take over Eurotechnique, a manufacturer in which National Semiconductor holds a 49% stake. French conglomerate Saint Gobain exercises 51% control.

The government has favoured

Thomson in the framework of a national plan to rationalise manufacture of components. This is at present shared by Eurotechnique, EPCIS - in which Thomson and the French atomic energy authority are partners with Motorola - and Matsushita.

French Minister for Industry and Research Jean-Pierre Chevènement seems to have been impressed by arguments from Thomson's administrator general, Elia Gomez, that CIT-Honeywell E.L. which is also under State control is being given a privileged position in computer production.

But in rewarding Thomson with control of Eurotechnique, the French government is handing taxpayers with a bill of between FF100 and FF200 million (\$16 million) for paying out to National Semiconductor for licences - hitherto freely available to Eurotechnique - and royalties on production.

Some robot firms will go to the wall, says report

by Philip Hunter

THE US now has too many robot makers and some will go to the wall, according to a financial report. The number of US robot producers grew from 18 in 1981 to 29 in 1982, and average revenue of \$1.9 million, five times bigger than in 1981.

A report from the US Venture Development Corporation expects a clutch of mergers and bankruptcies among these companies to leave 21 survivors by the end of 1983. Perspectee will be rewarded, however, because by 1987, the 30 or so US companies making robots will share a market of \$1,000 million, five times bigger than in 1982.

The VDC report is particularly concerned about the revenues of the smaller robot producers. Ignoring the largest two manufacturers, average revenues in 1981 were \$2.9 million, and less in 1982.

This may seem plenty to keep the receiver at bay, but the start-up investment is enormous, says the report.

Philips launches multi-user micro

THE cornerstone of Philips office automation strategy has been laid with its launch last week in a Madrid of a multi-station microcomputer. At the same time Philips has marked its intention of following the latest trend of the industry by selling its products in the volume market through indirect distribution channels.

A local area network strategy will be announced in January, with an integrated office automation system to be demonstrated at the Hannover Fair in April. The LAN will be based on token passing standards formulated by the Institute of Electrical and Electronic Engineers, and being closely looked at by IBM.

The new micro, the P3500, will have a "16-bit architecture", but in its initial form will be an eight-bit system operating under TurboDOS, a PM 2.2 compatible operating system from Microsoft.

Tooy Newson, divisional director of Philips Business Systems, said that an eight-bit version has

been released first to tap the wealth of available eight-bit software.

But Philips' decision to develop a multi-user micro was made only last January, and it is clear that the eight-bit offering has been rushed onto the market to ensure Philips' credibility with its customers.

Software for the micro will come from third party software houses, with Peachtree, subsidiary of US giant Management Science America and a supplier to the IBM Personal Computer, likely to be the first to be signed up. Sheffield Micro is another potential partner.

Deliveries to end users will begin in March of next year, and a 16-bit version will be released in August. The emphasis is on industry standard technology, said Newson, with compatibility with IBM systems a high priority, and ICL compatibility likely to come soon.

The initial release offers up to four shared-resource workstations, each with a dedicated Z80 proces-

sor. It uses the Intel Multibus, and languages include CIS Cobol, RM/Cobol, Multi Basic, and Basic 80. Graphics will come in the autumn of next year.

The P3500 has a starting price of about £3,000. A two workstation, 5 Mbyte hard disc and 300 characters per second printer will cost about £8,500. Micro packages such as WordStar, MailMerge and CalcStar will be available.

About 40 distributors will be appointed by the end of 1983, with 80 distributors by 1985 expected for full UK coverage. The general manager responsible for the distribution chain, Sixto Rodriguez, said that 50% of the data processing division's revenue would come through indirect channels by 1985.

Newson said Philips is spending £2 million a day on "technological pioneering type work", with 4,000 research workers. The company's UK data processing division turned over about £50 million in 1982, he said.



NEVISON... Emphasis on industry standard technology.

Strike-hit Sinclair looks for suppliers

by Robert Parry

SINCLAIR Research was last week hit by a new production problem - a strike at the Times factory in Dundee, which cost Sinclair a full week's production, about 20,000 Spectrum and ZX81 units. Times is the main manufacturer of Sinclair's computers. The interruption in supply has set Sinclair looking for other possible manufacturers.

The strike came about when management suspended five workers, and 3,500 walked out in support. Meetings last Thursday resulted in an agreement to go back to work. Some maintenance staff went back on the Friday, and there was a full return to work on Monday this week.

Times has been the primary subcontractor for building the Spectrum since it was launched in

April, but has had a troubled supply history. Technical problems built up a backlog of orders, which was increased by Times' annual three-week holiday just as production was starting to pick up. In October Thnrm BML was taken on as a second subcontractor, in an effort to cut the backlog and build up stocks for an export push next year.

Sinclair can ill afford further supply problems for the popular Spectrum as customer demand increases steadily to the run up to Christmas. The order backlog for the machine - which is only available through mail order - has been cut from the 12 week delay it reached in September, and the prospect of the waiting list stretching out again started a search for possible alternative manufacturers.



Two of the six promoted by computer.

Leg up for secretaries

by George Black

A POOL of secretaries working for a home Counties estate agency has won promotion, since a computer took over their old jobs.

The girls, who used to be snowed under a mountain of paper, have been freed to show clients around houses and negotiate contracts, said the firm's boss, Simon Poole, of Curson and Poole.

The agency is one of the first in the country to use information technology in this way. The number of secretaries has been reduced from nine to three, and is no longer needed for typing

and reception duties were given the opportunity of more responsible functions.

Curson and Poole has nine offices in Hertfordshire and North London and is shortly to open a tenth. Four of the branches were linked by a Philips P7000 multi-function processing system in April, and the remainder in August.

"It's still very early days, but this method gives much greater management control," said Poole. Customers could now go into one branch, inquiring about what houses were available in a different area and be given a list on the spot.

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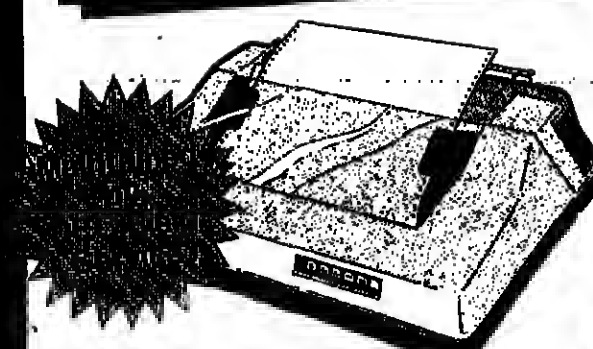
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'Expert systems always wrong'

by Philip Hunter

COMPANIES that have developed general purpose expert systems are living in a fantasy world. The best use of pretest technology is in tailoring a system for a particular application like medical diagnosis or oil exploration.

This view came last week from a huddling authority on expert systems, Max Bramer of the Open University, speaking at the Pergamon Infotech State of the Art conference in London.

"There can be no doubt about

it," he said. "Expert systems made from the general purpose builders just will not work."

The reason for the failure of general purpose expert systems, says Bramer, is that expert knowledge is difficult to condense into a set of rules capable of computer analysis. Experts themselves often do not understand how their minds work, and so much of their knowledge is unconscious. Therefore only a carefully tailored approach will work.

The biggest handicap facing expert systems builders claims

Bramer, is that experts are always wrong. "It follows that all expert systems are wrong too," he says.

Because experts make mistakes in their fields, expert systems can sometimes perform better, says Bramer. This can happen by gradually refining an expert system after running it on test cases.

One of the most exciting possibilities for expert systems, says Bramer, is to have them make up their own rules as they go along. They would be given a small cluster of rules to start from, and add as they learn from experience.

Viewdata 'give away'

NOTTINGHAM Building Society has revealed itself as the nation's "high-street financial option" behind the scenes in a giveaway 100,000 viewdata terminals to set up the UK's first electronic home banking service.

The scheme, including a comprehensive package of financial services and a new database of Prestel through which subscribers will be able to order and pay for goods and services from a variety of collaborating companies.

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Boom in DPMs' jobs this year . . .

by John Riley
THERE has been a boom in DPM management recruitment this year, according to figures issued by Management Selection Ltd in its quarterly MSL Index.

This index is a lead indicator for other economic indices and is made up of a count of all advertisements in the national newspapers and the *Economist* for managerial, senior technical and professional staff.

The computing vacancies are from industry, commerce and government sponsored agencies and exclude academic and civil service vacancies. The base salary is in practice £8,000 p.a.

The total number of job advertisements for the third quarter of 1982 was 6,822, an increase of 55% over the same period last year. Of these 510 were computer jobs, which is an increase of 78% over the same period.

Within the computing sector, there was a steady rise to 1977, followed by a high plateau of about 450 jobs per quarter. This lasted until 1980 when the number of adverts plunged to as low as 268 in the third quarter.

It is only in 1982 that there has been a significant increase, topping 500 in the second quarter. The latest figure of 510 suggests that this revival is continuing.

Oastler Michie, director of MSL, commented: "We don't monitor the specialist press. We have done so in the past but every time we have found that the trend is mirrored in the nationals."

"It is also interesting that this year the volume of advertising for computer equipment sales people seems to be very high, and it is very noticeable that their salaries are going up fast."

These computer sales figures are integrated into the sales category and a more detailed breakdown of the figures is not possible.

*MSL Index. Management Selection Ltd, 52 Grosvenor Gardens, London SW1. Tel: 01-730 0235.

. . . but computers will add to unemployment, warns US futurist

by George Black
MORE jobs will be destroyed than created by computerisation from now on, American futurist Earl Joseph warned a London seminar.

"The real question is whether our institutions will change fast enough to create enough new jobs and my suspicion is that we won't," he said. "Unemployment will grow as we try to cling to our past."

He was addressing the State of the Art Review put on by Pergamon Intorech, Earl Joseph, who worked for Univac for 30 years and is now president of Anticipatory Science Inc in Minnesota, said we

were still in the Stone Age of Computers.

The next decade would see very high-speed integrated circuits, ultra-large-scale integration, and machines that could recognise some strings of spoken words, he said.

Increasing reliability of products was another factor which was bound to add to unemployment.

The 1990s would bring rapid advance into expert systems. Already a medical diagnostic system called Internist was getting as good results as human doctors under test conditions.

The ingredients were being assembled for a co-operative net-

work of machines. "We'll have machines so smart they start to nag at you," he foresaw.

The smart car, taking its own driving decisions and avoiding accidents, could be on the roads by 1995.

Orwell had led us astray in his 1984, because it would be "millions of Big Brothers" who would be watching us. "We have to be very careful, therefore, how we set about building our new networks."

The 1990s would also lead to a blending of electronic and biological research, with the invention of a bio-chip.



Parliament and the general public are ignorant of government decisions.

Government in dark on technology says report

by John Riley

THE government, Parliament and the public are not getting enough information on technology to make sound policy or have informed opinions on that policy.

This is the view of an independent think-tank of top academics in a report Technology and Government, published by the Council for Science and Society last week.

Although there is a rapid proliferation of new technology, the processes for controlling it are inadequate, with more attention on short-term at the expense of long-term effects.

The debate is dominated by proponents of innovation, and the general public and Parliament are ignorant of the decisions being taken by government which will affect everybody seriously; and this at a time when genuine options are available.

The report recommends a Select Committee for Science and Technology drawn from both the Lords and the Commons, that "will transcend departmental boundaries and examine in a more synoptic and coherent way the wider implications of departmental policies."

Other recommendations are that

scientists should make a direct contribution to policy at all levels of government, that there should be more open government to allow more discussion, that Parliament should have more staff to cope with the information, and that the public and scientists should involve themselves more in debate.

When asked how effective he expected these recommendations to be in practice, Professor Kenneth Denbigh, director of the Council for Science and Society, commented, "It is a question of gradually putting across new ideas to the public. We don't expect immediate results, but we are putting a point of view which gradually gets assimilation into party policy."

A previous report, New Technology: Society, Employment and Skill - a Study of the Effects of the New Technology on Work has, according to Denbigh, "been a great success. It has been adopted in teaching courses in the US and in Britain. We hope that Technology and Government will be equally influential, although it is more concerned with the British situation."

*Technology and Government. £2.50 plus 40p postage. Council for Science and Society, 34, St. Andrew's Hill, London, EC4V 5BY.



UK micros 'best value'.

'Beating off foreigners'

BRITISH micros are beating off the foreign hordes, says a new report, and British office systems are holding their own against the imported opposition. UK micro manufacturers were found to offer some of the most advanced products and to give the best value for money, with eight out of 10 new British micros gaining a "worthy of attention" accolade.

The report is "What to Buy", published from King's Road, London, SW3.

The imported hardware fared less well, with only five out of 24 new products being deemed "worth a look". In the office automation stakes, Office Technology,

a small UK company comprising ex-IBM personnel, was given joint first place with US giant Wang, reducing Burroughs, IBM, and Philips to the role of also-rans.

One of the reasons cited for the success of the UK companies is the increased standardisation in the use of chips, most UK firms plumping for Zilog or Intel products, and operating systems CP/M, its 16-bit derivative CP/M-86, and MS-DOS.

The insignificant licensing fee for one of these operating systems, coupled with the paltry cost per chip, means that 75% of a manufacturer's needs are cheaply satisfied, says the report.

Wilmot launches ICL Roadshow

REMINDING the world that it still sells mainframes, ICL has launched the 2957, a new entry level system for the 2966 group of machines based on the 53 processor. At the same time the company is pushing Robb Wilmot's Networked Product Line concept very hard, discussing new features and refinements of most of its product line at a roadshow that will visit nearly 30 cities over the next few months.

The show is hauling £1 million worth of hardware around the country and is billed as "the biggest promotional event ever undertaken by a computer company in the UK".

Attendees can ask ICL personnel about many things, including the company's greatly increased interest in the IBM market which is further underlined by Roger Hill, ICL's business manager for office systems, who has promised support for the IBM 3270 bisynchronous protocol and for Systems Network Architecture "within the next 12 months" on several products. These are the DRS 20 networked microcom-

puter system, the Perq graphics computer and the ME29.

Visitors can also ask ICL if it regards its Mite-built DNX 2000 private branch exchange as a lot more than simply an important element in the company's networked systems design strategy.

Proof that ICL sees the DNX as an important "foot in the door" in major organisations with little or no ICL equipment at present is provided by the company's recent hiring of a man from the telecommunications industry to head its DNX 2000 sales offensive as DNX division director. He is Dr Aodh O'Dochartaigh, previously with the Irish telecoms firm Teletron, now 40% owned by US telecoms giant, AT&T.

Back in the DRS 20 department Roger Hill has pointed to a big increase in the local area network capacity of the system following last June's international accord, reported by *Computer Weekly*, under which ICL and about 20 other companies announced their backing for the European Computer Manufacturers Association LAN standards.

Roadshow visitors can enquire about the 10-megabit LAN now in operation at ICL's West Gorton, Manchester, development centre. If they are looking for "decision support" products, a fashionable industry buzzword, they should ask ICL staff to substantiate the prediction by their boss, Robb Wilmot, that 80% of decision processing data will ultimately be carried by LANs.

They can also ask for a detailed explanation of Wilmot's argument that baseband LAN technology, like ICL's Rihernet approach, is essentially a subset of broadband. Wilmot comments "There is a lot of misunderstanding about this issue in the United States" adding words to the effect that the debate about the relative merits of baseband and broadband, and about which is going to be more popular, is largely irrelevant, baseband being a subset of the latter.

Attendees with a LAN interest can also inquire about the "numerous LAN projects planned by ICL over the next year", highlighted by Ninian Radie, sales director of pro-

duct marketing. He names Kent County Council as an early LAN customer. Radie claims that ICL's new Netkil team at Reading is the largest group of LAN experts in Europe. Visitors can also ask about the voice, text and image support that Radie says are being added to ICL's Information Processing Architecture. IPA is roughly equivalent to IBM's Systems Network Architecture.

ICL's main existing LAN product, the DRS 20, achieved its first year's sales target in the first nine months, according to Roger Hill. He acknowledges that the multi-million pound orders from New York State and PAYE helped but also notes that sales of smaller numbers have also been made to other customers. Visitors to the roadshow can examine the latest enhancements to one of the newer DRS series terminals, the DRS Wordkil 8801, the former Nexos product. New is the capability to extract information from fixed format records using specific search criteria and to sort records into numerical and alphabetical sequence.

SALES BRIEF

Counting on Univac - after 31 years

A RELATIONSHIP dating back to the birth of the commercial computer industry is continuing with an order for a Sperry Univac 1100/84 mainframe for the US Bureau of Census. The \$35 million contract includes 57 terminal systems, 20 System 86 computers as remote batch terminals and two laser printing systems.

The Bureau ordered the first commercial Univac computer in 1951. It now has several big Univac mainframes.

Birthday gift

BRITISH TELECOM has given Automation and Power Supplies the perfect gift for its tenth birthday: its biggest order yet. The company will supply 3,000 new units for BT's Exange exchange in small businesses.

Brian Rix signs

FORMER Whitehall force for Brian Rix and ABS Computer managing director John Bida have signed a contract under which the UK manufacturer will supply a computer to the Red Society for Mentally Handicapped Children and Adults. Rix is the society's secretary-general. The ABS system will handle accounting for the society's expanding nationwide activities.

ICL for Life

ICL has fought off "fierce competition" from five leading US frame manufacturers to remain the supplier to Provident Life Association of London. In a £1 million contract the insurance company has ordered a dual 2958 to replace its ICL 1900. The eight-page machine will run CME, £250,000 allows a 2900 to run its own VME operating system and the 190-compatible DME system to transition to the newer range.

Fans for Prime

A PRIME Series 50 microcomputer is to be used for finite element analysis by James Howden & Co. of Glasgow. The system will help with the development of large industrial fans and other equipment and beating equipment will provide information on noise levels, vibration and heat transfer.

Pan Am viewdata

CONTRACT to supply, install and maintain viewdata equipment for Pan Am's new Panair time airline booking system has gone to Visionaire Communications, part of Electronic Research. The equipment includes the face editing terminal and Philips domestic and desk-top viewdata television sets.

First £10,000

FIRST order for Sydney Development's new brokerage and portfolio management system has come from the London office of stockbroker Walwyn, Stoddart, Cochran, Murray. The £10,000 order includes a Cromemec microcomputer.

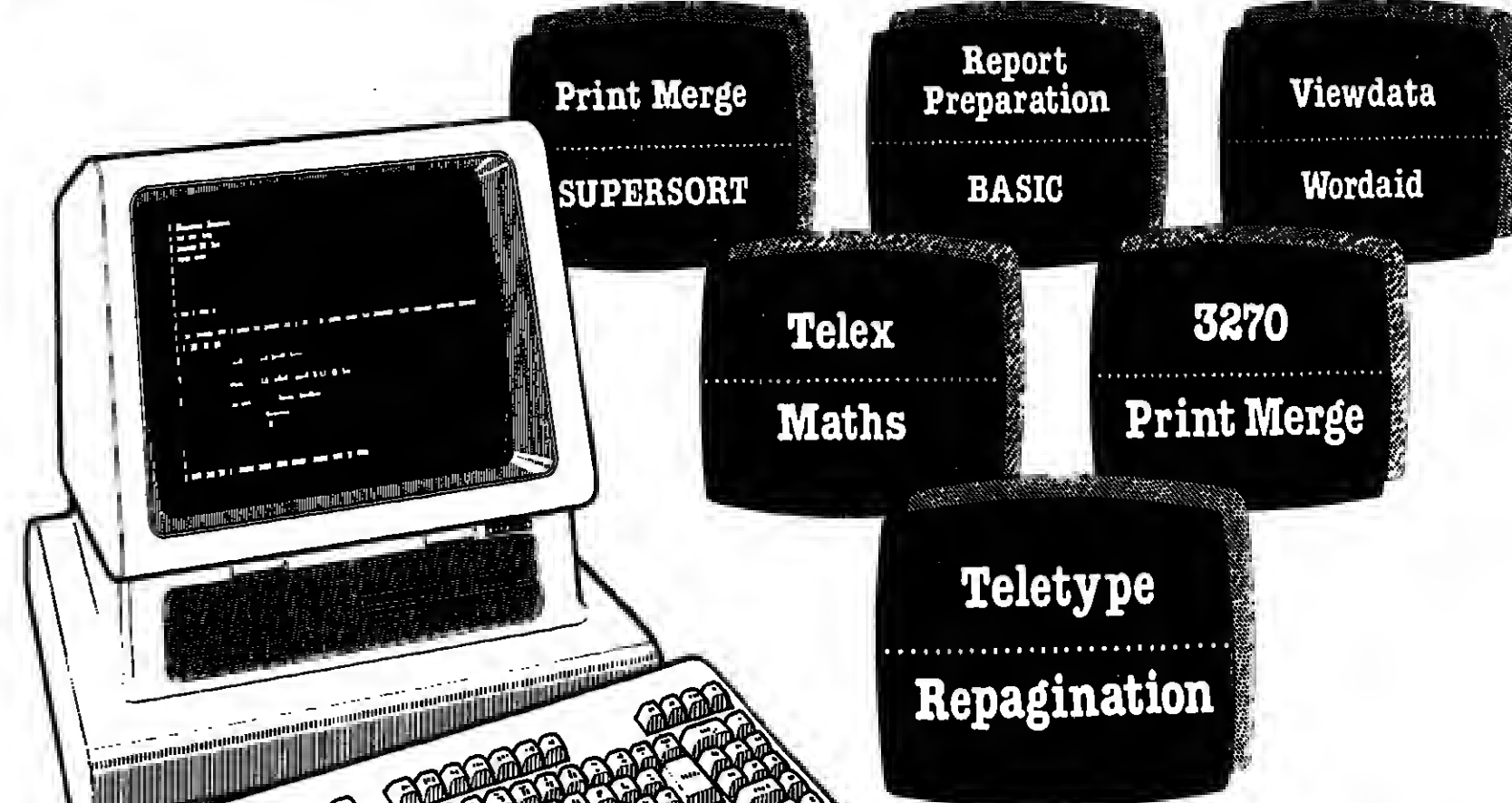
Bombay control

PHILIPS is to modernise traffic control in Bombay following an order for a turnkey project covering the installation and maintenance of traffic lights, signalling systems and cables. Roadside microcomputers will control intersections, while central computers will co-ordinate the operation of the smaller machines.

Job costing

THORNCROFT Master Services has job costing system has been taken into the local government market with an order from Somerset County Council. The package will run on the council's ICL 2900 mainframe and report its own system, written in ICL's own language.

The Wordplex 80-4 with Dual Ground Working



Dual Ground Working permits these familiar electronic office routines (and many others . . . and practically any combination of the above) to run concurrently in one machine. As both are in 'foreground' at the same time the Wordplex 80-4 is effectively **two systems in one**.

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The system is completed with the 48 cps top-quality Echo character printer.

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WILMOT . . . "Biggest computer promotional event ever in UK."

Sirius name lost in Victor merger

by Robert Parry
THE blending of Sirius and Victor is official, if not yet complete. US micro hardware company Sirius Systems Technology - developer of the top-selling 16-bit micro in the UK - and the US company selling the machine under its own label, Victor Business Products, have merged.

The new company will be headed by Sirius Systems founder Chuck Peddle, and will be called Victor. The Sirius name will be dropped in the US because of a legal ruling over possible confusion with a previously formed company, Sirius Software, which

sells add-on games for Apples.

The merger will have little effect on the UK market. The two distributors of the different machine versions, ACT with its ACT Sirius 1 and DRG Business Machines with the Victor 9000, will continue in competition. The new Victor will honour contractual commitments with European Victor distributors like DRG, as well as supporting established Sirius distributors and subsidiaries.

Greatest changes will be in the US, where sales of the machine have so far proved less than spectacular. Peddle says he will re-focus the US marketing operation, de-

centralising more but playing strongly on the Victor name. Sirius and Victor operations in Europe will also be integrated under the Victor name.

"Victor has 65 years as an established name in the office equipment area," says Peddle. "There are more than 10 million products out there with the Victor name on, and we're going to build on that brand identity."

In revitalising the Victor marketing, Peddle will be trying hard to emulate ACT's methods and success in expanding the market for the machine. "ACT is our leading distributor worldwide.



PEDDLE... "10 million Victor products."

The European success was totally spearheaded by ACT, which showed other Sirius dealers how to bring the machine to the market. I intend to make eight to 10 ACTs in the US."

The formation of the new Victor involved transfer of more than \$50 million assets from the Kiddle Corporation, of which Victor Business

Products was a wholly owned subsidiary. Kiddle has also put in another \$30 million funding, and Peddle intends to seek further public funding soon.

Victor will need this to compete with giants like IBM and DEC, and the newer publicly-funded micro companies like Convergent Technologies and Altos.

Course to give sales staff DP training

by John Riley
A GROWING problem faced by microcomputer retailers is finding and training salespeople with a thorough understanding of the machines and awareness of customer's differing software needs. That is why the Polytechnic of North London in conjunction with the Manpower Services Commission is setting up a pilot 21-week course to train computer sales staff.

Robin Bradbeer, who will lead digital electronics and computing, commented that this goes to the heart of some ways of answering recent criticisms of TIPS schemes.

"There is a crying demand for micro salespeople and we are trying to meet this," explained Bradbeer, course tutor in management studies. "Every high school will soon see a computer shop and it is important that practical advice can be offered to each."

The course will cover three main areas: computing, business knowledge, and marketing. The teaching will involve extensive use of a wide range of microcomputers. The three main teachers, Bradbeer, Hofer and Barry Ma (who will teach business studies), have about 60 years' computing experience between them, and emphasise that they all have continuing involvement with users through regular consultation. Bradbeer and Ma were involved in the design of the first ICL Condor.

"The first course will start on February 7, and will cater for 20 people, aged over 25 years, at least two years' business experience, and O-level in Maths and English."

"We do not see any immediate turn-up to the world economy," says systems group general manager Viemond Crane, "and at our present profit level we can't find enough for R&D and growth."

From the estimated \$880 million 1982 revenue Intel needs to find about \$120 million for R&D and \$150 million in capital equipment expenditure. Planned levels for 1983 are about \$150 million for both of these.

"The choice is freeze wages or starve technology development," says Crane. "We can't afford to stop the technology engine. I don't see our competitors cutting back."

Intel has done better on staffing than most of its US semiconductor rivals through the recession. While others, notably National Semiconductor and Texas Instruments, have been laying off employees, Intel increased staffing levels by nearly 3,000 last year, mainly in the US.

It did get them to work harder though, with its "125% solution". National also froze wages last year.

For European staff the coming freeze means normal annual rises will not happen next year - unless things look up during the year.

CDC launches disc attack

by Kavan Pearson
CONTROL Data has launched a major attack on the IBM compatible disc market with an IBM 3375 type disc system, offering significant performance increases over the IBM product, the company claims.

The CDC 33750 follows CDC's return to the mainstream IBM disc market earlier this year with the CDC 33800 compatible with IBM's 3380.

And IBM's latest round of US price cuts on 3370s and 3375s could indicate that replacements are on the way.

The product is aimed primarily at the 4300 market, with deliveries

starting in the fourth quarter of 1983. Derek Batey, a director of the independent leasing company PCML, expects the price to be under £60,000 "about 85% of IBM list".

He expects Memorex and STC to come to the market at about 90%. CDC can be cheaper because of its market position as the world's largest OEM supplier of disc drives.

The 33750 uses thin-film read/write heads, and each device contains four independent head disc assemblies and a single actuator per assembly making it field upgradeable to CDC 33800 specification.

The new device will interface to a CPU via CDC's own 33800 controller. All the plug-compatible disc suppliers are building their own controllers rather than connecting through IBM's 3380 model 13, according to PCML's Batey.

Meanwhile speculation is in-

creasing concerning an impending disc announcement from IBM to replace the 3370 and 3375 machines. At the end of October, the company cut the purchase price of these products by up to 25% in the US, while some lease-rental rates were increased, by up to 20% in one case.

The industry expects IBM UK to follow with similar price changes before the end of the year. IBM's 3370 and 3375 products are based on the same technology, which is different from that in the 3380. Consequently users cannot upgrade with changing the hardware. This is where the CDC disc will score heavily over IBM.

And according to Batey, some users are also expecting an IBM announcement. "We can already offer cheap 3370s from users who have order positions and have not taken them up," he says. "Availability is good. There are more boxes available in Europe than there are customers."



'Word processors are bad for you'

by John Riley
WORD processors are bad for your health, and managers are to blame because they ignore ergonomic factors. That is the warning from Alfred Marks in his Word Processing Salary Survey published last week.

The findings, based on questioning 132 companies and 98 operators, show an unacceptably high number of ailments among operators. Eye fatigue among 75%; headaches suffered by 55%; backache with 35%, together with pains in the arm and neck and migraine.

On top of this, stress was caused through bad management. Seventy-eight per cent of the

operators were frustrated by poor communication from managers who were ignorant of WP capabilities. This correlates with the 77% of companies which did not train their WP operators at all, and who were left to get on with the job.

John Grundy, chairman of the Occupational Visual Welfare Committee of the Association of Optical Practitioners who has co-authored several studies of VDUs, commented: "The ailments are caused by a number of factors. One-third of the working population has uncorrected vision and this comes out when working at a VDU. Glare is certainly a problem. It is getting better with screen characters getting brighter."

Bernard Marks, chairman of the Alfred Marks Group remarked: "Management fail to take the most elementary steps to maximise the benefit from their equipment."

However, the characters should be stable and not blurred, there should be no screen flicker and the contrast background should be minimal.

"Contact lens wearers have difficulties initially as the concentration reduces the blink rate and the heat from the VDUs dries the eye eventually compensates by producing more tears and the blink rate does increase when the operators are more relaxed."

Management fail to take the most elementary steps to maximise the benefit from their equipment."

NEC to run own UK distribution

by Donald Kennett
JAPAN'S biggest micro maker is set to run its own UK push. NEC Telecommunications, maker of the PC-8000 range of CP/M-compatible microcomputers, has set up its own UK distribution team.

Management is disappointed that only 1,000 of the systems were sold in its first year of trading in the UK through the dealer network set up in its behalf by Reading-based distributor IBR Microcomputers.

Meanwhile in its native Japan, NEC tops the league with 40% of the market - double the share of its nearest rival, Sharp.

Both IBR and NEC agreed they were hampered by having too many levels in the distribution chain, leaving too small a margin for each.

IBR has bowed out gracefully to

go up-market with the US-made Unix-compatible 16-bit Fortune Systems range, handing over its network of 52 dealers to NEC. Going direct to the dealers has enabled NEC to increase the dealers' margin and lower the suggested retail prices at the same time.

"The industry standard dealer discount is 30% to 35%," says UK computer division general manager Gary Mason. "Ours is considerably more. We want to get up to 100 dealers as soon as possible."

The 1,000 systems sold in the last year represent no more than two per cent of the UK business microcomputer market, while its rival Sharp has sold 3,000 to 4,000 systems. NEC, however, claims 25% to 30% of the printer and peripherals market and is confident of copying this success in the

microcomputer sector.

"We believe the number one company will have 30% and the number four will have 20%," says sales manager Mike Flashman. "We will definitely be one of those four."

Mason, who joined NEC in July after five years at Centronics and 10 years at Olivetti before that, says: "We sell an overall solution. The system will do a user's payroll or his invoicing and we will make sure the dealer has what we believe will enable him to sell it - training, videocassettes, documentation."

"One of the failings of all companies has been lack of software."

NEC has put together six accounting and word processing packages and expects to have 12 by the end of the year.

'Liberation for users'

by George Black
THE new telecommunications standard to be introduced in 1984 would mark the liberation of the user, said Richard Lindenmuth, vice-president of Burroughs' Imaging Systems Division.

Speaking at Pergamon's State of the Art Review in London, he said the introduction of the Group 4 communications standard by CCITT, the international standards authority, would bring a significant growth of the market, adding: "It's the biggest thing that's going to happen in quite a while."

Warning against an excess of caution, Lindenmuth said firms should start buying office automation equipment now: "You wouldn't put off buying a car until cars were perfected. The same applies to office machines. It's the learning process that counts."

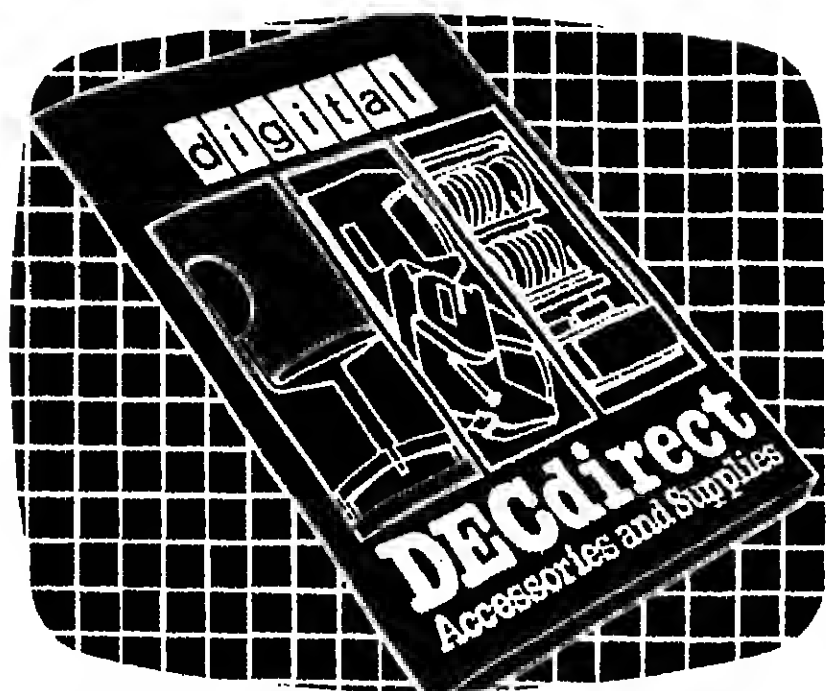
Governments' vulnerability to strike action would be reduced by the transition from mainframes to micros, he said. "Seamless" systems which switched from one operating system to another and could call routines from a variety of operating systems were only about a year away.

But lack of software standardisation was likely to continue for several years.

Lindenmuth was sceptical about the impact of Japanese computers on the West, attributing reports of the progress of the fifth generation project to "fear of the unknown".

"We will always be one step ahead," he prophesied. Office automation was going to change the nature of many jobs, said Lindenmuth, predicting that secretaries would be upgraded and typists would become rare.

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CRANE... "It's that or starve technology development."

Union calls: Stand Up for Britain

by John Riley
THE computer industry is an integral part of the "inner fortress" of British industry which must be defended at all costs against countries which deny us equitable economic access.

This "inner fortress" is the key-note of the Stand Up for Britain campaign initiated by the half-million strong Electrical and Electronic Telecommunications and Plumbing Union.

Chairman of the campaign, Eric Hammond, said: "We all have to stand up for British industry because if we continue as we are we're stopping employment prospects in all industries including computing."

"In getting our message across we want to break out of the narrow Labour Party - TUC arena. There is a strong feeling that the trade union movement is rather negative in its argument about unemployment, and the Labour Party is inconsistent in its attitude to it."

"It is easy to say that the government is entirely responsible for unemployment but we must remember that it has arisen over successive governments."



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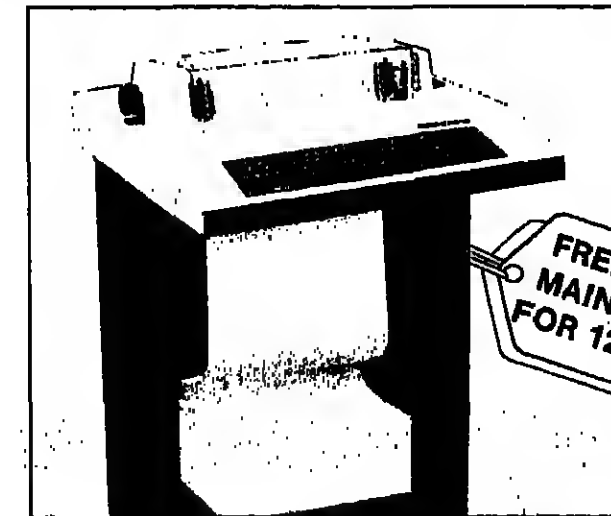
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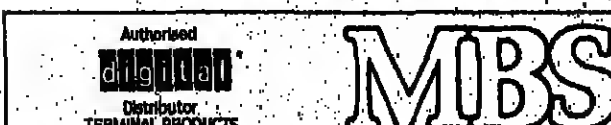
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JOBS



Al Rogers and Anne Hawkes... the transatlantic partnership that aimed to put UK computer staff into US jobs.

The road to Yankee gold is often full of pot-holes, as Boris Sedacca's cautionary tale for contractors relates

US link looked like a good deal—but wasn't

LAST February, Computer Weekly carried a story about the activities of a Hollywood contract agency called International Management Consultants which was recruiting UK computer staff to work in the US.

IMC was operating through a local contract agency called Computer Software Services, an outfit licensed in accordance with the Department of Employment but not registered as a limited liability company.

CSS proprietor Anne Hawkes was approached by IMC president Al Rogers to interview UK computer staff for jobs in the US, jobs which did not materialise save two.

Naturally the whole operation incurred some expenses and neither Hawkes nor Rogers wants to pick up the tab. The dispute may seem irrelevant were it not for the fact that at the time the

interviews took place, Rogers was asking for money on the table from candidates to cover expenses for a law firm to which IMC is affiliated.

Rogers also wears another hat as legal administrator for this firm, called The Immigration Clinic. Hawkes claims that a total of £3,960 was taken from 44 candidates to cover "immigration costs and visas". Until the dispute is resolved they are unlikely to get their money back.

This money was put into a bank account in the UK, opened under the name IMC UK. Hawkes was one of the signatories to the account, the other being an employee of Rogers's at IMC, David Charlton.

Rogers claims only £55 was taken in cash from one candidate, Bernard Webber. The rest was in the form of cheques made out to IMC UK. Single candidates like Webber were asked for £55, while married candidates were asked for £110. One unfortunate candidate, David Parsons, was told by Rogers that if he wanted to take his fiancée with him to the US, he would have to get married first and handed over £110.

Webber wrote to Computer Weekly in early October to say that neither Hawkes nor Rogers had replied to his letters requesting a refund, and that both Anne Hawkes' telephone numbers on CSS letterhead were now unobtainable.

Computer Weekly called The Immigration Clinic's office on Sunset Boulevard but Rogers initially proved reluctant to talk. A colleague, Frank Ronzio, provided a new telephone number where Hawkes could be contacted, adding that a cheque had been sent to her for the money which they owed her.

"They sent me a cheque for \$3,000 but in their covering letter, they said the enclosed cheque was for \$3,500," said Hawkes.

"They also said that if I were to cash the cheque, I would be deemed to have accepted their offer in full settlement of my claim against them. What they should be reimbursing is closer to \$5,000 because out of the £3,960 taken from candidates £2,838 was taken out of the IMC UK account by Al Rogers."

Rogers denies having taken money out of the IMC UK account. "The only people who could take money out of the account were Anne Hawkes and David Charlton, and Charlton did not draw any money out while he was still in our employment although he may have done when he went to work for Anne Hawkes," he said.

"What Anne Hawkes did to pay herself for operating expenses

should not have come out of the IMC UK account. It was a matter to be resolved between ourselves and she had no authority to use candidates' money."

The legal deadlock arises from the imposed term of payment written into IMC's letter to Hawkes, to the effect that cashing the cheque for \$3,000 would imply her acceptance of the sum as full settlement of her claim. Such a term is invalid in English law but according to Rogers is commonly accepted practice in the US.

So although Hawkes could reimburse some of the candidates a full or all of the candidates in payment with the money she has so far received, by so doing she would jeopardise her legal position in the US.

On the other hand, Rogers felt that there are many expenses claimed by Hawkes which he does not accept responsibility for. "I cannot tell you how much I advanced to me but \$3,000 refers what we consider to be what is owed to her for expenses, such as hotels and conference fees," he said.

"I cannot recall any cash advances to me. There may have been some, but only minor ones." Rogers would not confirm the amount of \$3,960 which was taken from candidates. "I do not know the figures in front of me," he said. As for the discrepancy between the cheque for \$3,000 and the amount of \$3,500 which covering letter said the cheque was for, Rogers admits to having made a mistake.

While both sides of the dispute argue over who takes responsibility for the expenses, over 40 UK computer staff are out of pocket.

Ann Hawkes has now written all of them to explain her situation, prompted by Computer Weekly's intervention.

She is suing Rogers, IMC and the Immigration Clinic, but has told candidates they will not be expected to contribute to the cost of bringing her action to court. She claims she was against the idea of taking money from them in the first place.

The question of signing pay for the IMC UK account is one which Hawkes does not want to discuss in detail. "I know what I am going legally with and I do not want to jeopardise my process by saying anything now."

In the meantime, over 40 UK candidates are out of pocket and still waiting in the UK. "I don't emphasise that my plans to go to the US are unchanged, but I no longer want to do it with the agency," said Webber.

Parsons added: "I have given up hope of ever going now. I am just pitting it out of my mind."

SOFTWARE FILE

How will APL affect micros?

by George Black

EXPERT opinions conflict about the likely impact of the APL language on the micro market. Romilly Cocking, of Cocking and Drury, the APL programming consultancy and support agency, forecast confidently that APL would displace Basic as the main micro language within five years.

"It has taken ten years for APL to reach the micro and we are always fighting against the conservatism of programmers," he said. "But the breakthrough is at hand."

However, Dyadic Systems' Phil Goacher, was more wary. "I think Basic will continue to be a major force in the home computing and educational field, but APL is going to prove much more flexible for the business world," he said.

Meanwhile Inner Product Limited is planning an invasion of the schools by giving the language free in the spring term of next year. First takers will be the Inner London Education Authority. Westminster City School has already led the way by setting up its

own company to promote APL programs.

IPL has just announced an APL interpreter called VIZ:APL, which gives a workspace of one megabyte on an 8-bit machine. The interpreter has the backing of Berisford Information Technology.

At the same time IPL is making APL available on an IBM Personal Computer for Teeco, where it is undergoing testing.

Director Dominic Murphy said: "We intend to break the mould by introducing an 8-bit implementation at a low price which will put APL on a footing with Cobol or Fortran. There ought to be a significant impact in the schools."

They were talking at an APL roadshow at London Imperial College where new language products were launched at an exhibition and seminar session.

Dyadic Systems presented a portable version running under Unix at the show and Data General showed a version compatible with Sharp APL and APL*PLUS. MicroAPL introduced its 16-bit Scimitar model.

Variety of hardware on Amexon 'growth path'

by Claire Gooding

ABILITY to grow in computing power without changing applications is the main lure thrown out to users by a new British company, Amexon.

Applications which grow with the needs of the user are rare enough. What is more unusual about the service offered by Amexon Communications and Computer Systems is that it is using a variety of hardware in its 'growth path' policy.

Users can move from a Unix-based time sharing system based on the Pegasus super micro, running Unix System III operating system, to their own single-user or fully fledged multi-user 16-bit systems.

The single user machine initially on offer will be the IBM Personal Computer, for which Amexon is a UK distributor. The in-house multi-user system will be Unix-based minicomputers, sold with applications.

"The idea is to grow upwards," explained managing director John Dobson. "Maybe the user will start with two or three packages on the time sharing machine and then progress from that to the IBM PC."

"The company further up the scale, with 500 or more employees, is going to need its own machine, but the ultra-small company of four people who just need some way of keeping the books will still have access to good software with the potential to move onto a single-user system."

"There's really no such thing as a typical user - the range of service like this is difficult to describe."

Amexon has already negotiated with several software houses to be able to offer a variety of Unix-based applications.

It will be offering accounting packages from London software house Bonsai, some being Anglicised versions of US packages written in Ryan McFarland Cobol. Sales ledger, purchase ledger, general ledger, inventory control and order entry are also on the list.

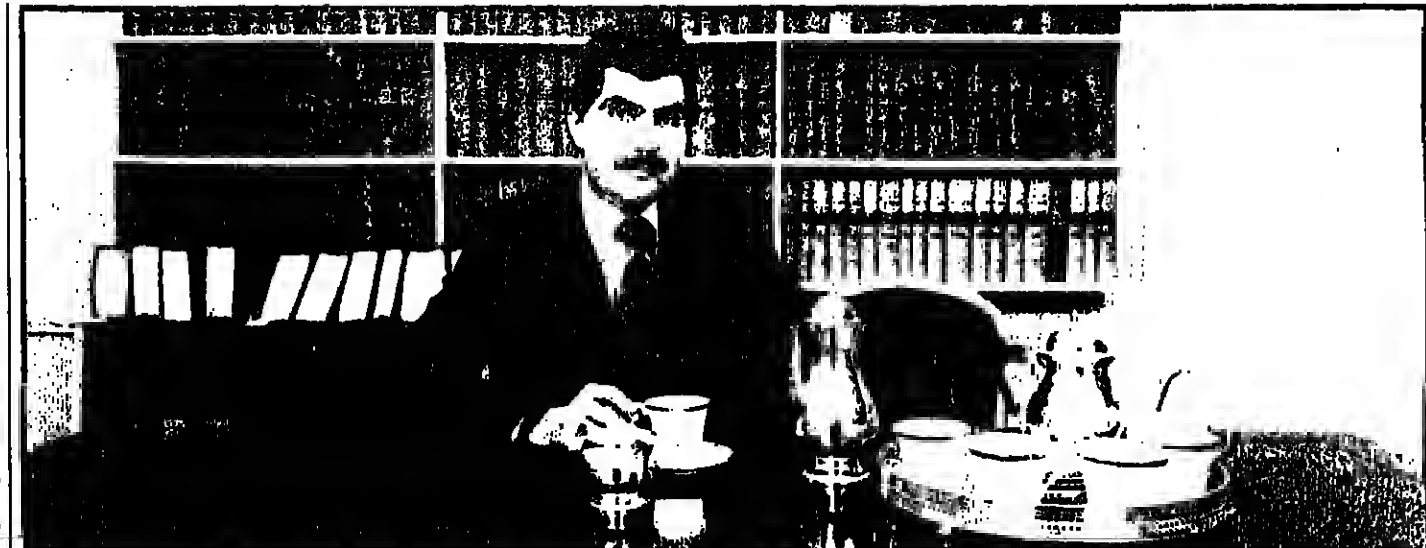
Amexon will be supplying the Xed word processing package from one of the first British software houses specialising in Unix, Precision Software, and taking on a financial planning package from the newly-formed software enterprise run by one time hardware

British Gas exports

system installed by William Press in the suburbs of Cairo. The consultancy has been in operation since 1970 and now earns up to £8 million a year in over 30 countries around the world.

Other schemes have included a control advisory program for West Germany and Australia, gas distribution systems for Bangla Desh, a pipe stress analysis program for Australia, a feasibility study for Dubai and a safety audit for Hong Kong.

But the highly developed Japanese and American markets are still the most commonly exploited ones for ICS. As well as specialist programs for gas systems, ICS systems previously used by the gas corporation for customer accounts and management information are marketed overseas.



Barister Kelman... "When the evidence acts were drafted the word 'software' wasn't even in use. Now the meaning of the law is in doubt."

UK firms wide open to fraud, says Kelman

by George Black

MANY British firms are at the mercy of unscrupulous employees because their systems are inadequately documented, a British Computer Society meeting heard.

The evidence that could be produced against an internal fraud was so flimsy it would be thrown out of court, said Allister Kelman, a barrister specialising in computer problems.

Fraud was now endemic in computer installations, the meeting was told by Richard Sizer, co-

author with Kelman of the book *The Computer in Court*.

Kelman said every installation should keep comprehensive records of its hardware, operating systems and software as well as of the skills of all the personnel involved and a logbook of faults and updates. Methods used to test the systems should also be accurately set down. Only thus was there any chance of convincing a court that output was reliable.

Yet there were very few British firms that complied with even the minimum safeguards needed to put forward an acceptable legal case. Documentation was often either non-existent or out-of-date.

Kelman recommended changes in the law to bring together the civil and criminal evidence Acts, making specific mention of the admissibility of software in court.

"When the Acts were drafted the word 'software' wasn't even in use," he pointed out. "Now the meaning of the law is in doubt."

If it proved to be called in evidence the fact should be stated at committal proceedings, he argued. Nobody could even say at present whether computer evidence was to be treated as real evidence or as hearsay.

Sizer said: "Many systems can be penetrated by staff who are barely literate. And the position will get worse and worse. Looking at Home Office statistics there is little evidence of the growth of computer fraud. But that's not surprising because until recently the official form had no box to record this category of crime."

Pegasus venture takes off

by John Kavanagh

JOHNNIE JOHNSON is enjoying the move from programmer to managing director at Pegasus Software: in its first seven months the microcomputer software firm has reached a turnover of £162,000 and a trading profit of £63,000. It is aiming at sales of £450,000 and a £200,000 profit in the next year.

Pegasus was formed in January by microcomputer reseller HB Computers to sell the Pegasus accounting and stock control package developed by Johnson, who was made top man. The system, written in Basic, runs on the Commodore 8000, the ACT Sirius, the DRG Victor 9000 and the Sharp 3201. A version for the CPM operating system is also available. The system is sold through 250 retailers.



JOHNSON: From programmer to managing director.

"It's been a bit of a hassle moving to management," said Johnson. "It takes you away from the technical side and I rather miss that."

£36,000 to develop software for doctors

by Donald Kennett

MANCHESTER University has teamed up with a local group of doctors to develop CPM-compatible software for general practitioners.

The project is backed by a £36,000 grant for equipment from the Department of Health and Social Security, despite the fact that the doctors have picked a micro which is not one of the two systems made available to 150 selected practices under the £2.5 million Micros For GPs Scheme announced in June.

The official systems are from CAP and British Medical Data Systems, but Manchester University's project at Barlow Medical Centre is based on a nine-terminal Multicomputer M200 which will be used by four doctors and their ancillary staff.

University medical computing and computer science department staff will write programs for the

system, which will then be available to other practices.

The Centre's senior partner, Dr Clifford Kay, was chairman of the Royal College of General Practitioners' computer working party which two years ago recommended using a local computer network to develop a multi-user system for GPs.

The M200 is made by Molecular Computer in the US. It enables up to 255 users to share hard disc storage and printers while each having their own 64 Kbyte Z80 processor housed in the central system. It runs a CPM-compatible operating system.

An important factor in the selection of the M200 for Barlow Medical Centre was that Multicomputer had modified it to provide the resilience of a duplicated file processor so that the Centre can have a back-up copy of all its records on a second 20Mbyte Winchester disc.

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Middle East. And, of course, there is data communications with all its implications for regional expansion. To bring home the Arab experience speakers will include leading industry experts and users from the region. Their knowledge will provide a true perspective on current practices and developments. Middle East Computing is organising the

conference. Published by IPC, the world's largest business publishing house, IMC is an associate of Computer Weekly, and circulates to 6,000 computer users throughout the Middle East. This major event takes place during the Gulf Computer Exhibition which will be held within the Dubai International Trade Centre from December 13-16 1982.

Programme

Tuesday 14th December

- 08.11 Registration of delegates
- 09.00 Official opening
- 09.11 Keynote speech: Computing Developments in the Middle East. Ahmed Hassan, Data Processing Manager, Dept. of Health and Medical Services, Dubai, and founder of Data Processing Management Association.
- 09.45 The use of satellite - Arabnet, its implications for telecommunications and data communications. Dr. Ali Al-Masari, Director General, Arab Satellite Communications Organisation.
- 10.10 Coffee
- 11.00 Planning and implementing a data communications network in the Middle East. Charles Allen, Managing Director, Gulf Computing Systems.
- 11.45 Local area networks: V.E. Chong, Consultant, Secom Ltd.
- 12.30 Panel discussion
- 13.00 Lunch

- 14.00 Implementing a word processing network. Mr. Keni, Project Leader, Computer Services Division, ADMA OPEC.
- 14.45 Creating an Arabic database. Christian Vetterly, Project Manager, Tom Pedersen International.
- 15.30 Tea
- 16.00 Bankings the SWIFT network and its impact on the Gulf banking community. R. H. Haidenstock, SWIFT Business Development Officer, SWIFT.
- 16.45 Panel discussion.
- 18.41 First system: The issues facing a company setting up its first computer system. Dr. A. H. G. and, Information/Computer Services Manager, Qatari General Petroleum Company.
- 09.45 Introducing personal computing into the organisation. Jack Sharwood, IBM Dubai.
- 10.30 Coffee
- 11.00 Interactive graphics. Mario Bonano, Managing Director, Compag ME & A.
- 11.45 Development of a reliable computer system. Sam Samra, General Manager, KS.

Wednesday 15th December

- 08.30 Registration of delegates
- 09.00 First system: The issues facing a company setting up its first computer system. Dr. A. H. G. and, Information/Computer Services Manager, Qatari General Petroleum Company.
- 09.45 Introducing personal computing into the organisation. Jack Sharwood, IBM Dubai.
- 10.30 Coffee
- 11.00 Interactive graphics. Mario Bonano, Managing Director, Compag ME & A.
- 11.45 Development of a reliable computer system. Sam Samra, General Manager, KS.

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to be held in the Trade Centre, Level 5, Dubai International Trade Centre, Dubai, U.A.E. on Tuesday and Wednesday December 14th and 15th, 1982. The fee of UAE Dir 150 or US \$400 per person includes attendance at the conference, documentation, morning coffee, lunch and afternoon tea on both days. Delegates may attend on one day ONLY or a fee of UAE Dir 80 or US \$200 per person including refreshments and documentation.

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Growth slips for some US giants

The Massachusetts based minicomputer manufacturer,

Although there was a slight fall in pre-tax profits, from \$14.8 million in the final quarter of last year, to \$13.8 million for the same

Belgium and Israel, said that business was very good. Last year Tandem installations in the UK trebled, a number equal to all those installed in earlier years.

LOUTH . . . Tandem installation in UK trebled in past year

lion in development grants, with IBM receiving most — a total of £1,389 million, in several discrete lumps.

Another significant receiver of

Barclays Bank is owed the £160,000 but other debts have not emerged in any number. Of four attended the creditors' conference.

'Personal mainframe' puts HP on 32-bit map

moment. The market is expected to push past \$1,000 million by 1990, according to a report* from US research firm International Re-

more than when it was set up over a year ago. Members include Plessey, Ferranti and Quest, along with GEC Marconi, Thorn-EMI, ICL, STC, Racal, Logica and

[illegible]**inves**

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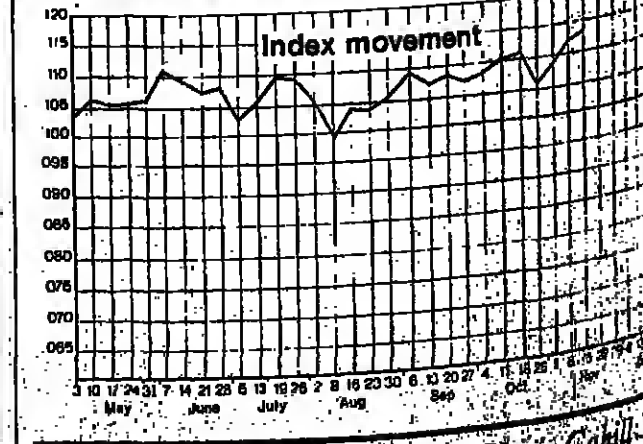
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Ward sees the involvement with Globe as an experiment, although Intelligence already has a hardware involvement through an autonomous subsidiary, Intelligence Systems.

by Robert Parry



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BOOKS

Computer pioneer had to struggle for recognition

Charles Babbage, Pioneer of the Computer. Anthony Hyman. Oxford University Press. £12.50.

BORN in 1791, Charles Babbage lived more than a century before his time and as a result spent most of his life struggling for recognition of his advanced ideas.

Primarily a mathematician, he was already ahead of his tutors when he arrived at Trinity College, Cambridge, and this started him off on a crusade to reform the nineteenth-century attitude to science and its teaching.

While still at Cambridge, he founded the Analytical Society to reform mathematics, and later joined forces with the astronomer John Herschel to attack policies and activities of the Royal Society, writing a book called *Reflections on the Decline of Science in England* as a vehicle for his criticism.

The idea of calculating by machinery occurred to Babbage in about 1820, when the Astronomical Society asked him to prepare sets of tables. Herschel produced one set and Babbage another, but

on comparison they proved to have many discrepancies, and this led Babbage to wonder whether they might have been more efficiently produced by steam power.

From this idea grew the Difference Engine plan and, after constructing a preliminary model with six-toothed wheels for storing digits to check that the idea was feasible, Babbage proposed its construction in an open letter to the president of the Royal Society, Sir Humphry Davy.

The rest of the story is a familiar one to many companies or individuals seeking government funding for high technology development today. Moorey was promised, but not forthcoming, and Babbage was left to fund most of his research himself from a modest private income.

Invited to stand for the North London constituency of Finsbury in 1832, one passage of his election speech could have been written for 1782, so similar is its philosophy.

In his speech he maintained that Britain could only hope to keep ahead of other nations by diffusing the knowledge gained through ad-

vances in manufacturing.

Anthony Hyman's picture of Babbage explodes the image of an academic hermit poring over his inventions by day and night. Babbage numbered among his friends the Duke of Wellington, Charles Darwin, Lord Shaftesbury, the Brunels and William Henry Fox Talbot.

He was also an inspired inventor suggesting new techniques in stage lighting, designing a punch card for input to the Analytical Engine he never actually built, and nearly drowned in his youth while experimenting with water skis.

This is a fascinating book which gives sympathetic insight into the life of a brilliant man who, though thwarted by official bodies, still managed to complete an amazing amount of scientific work and statistical analysis.

It is not by any means a book about the first computer, but gives a very readable account of the inspiration, skill and sacrifice of the man whose dream was to build it.

Maggie McLening

A useful systems workbook

Advances in Information Systems Science: Volume 8. Edited by Julius T. Tono. Plenum Publishing Co. £42.50.

THIS is, without doubt, a thoroughly useful systems workbook. The only daunting aspect is the price. At £42.50 it's strictly for the library or corporate budget. That said, what's the appeal?

In my time as a systems analyst there were always two rebarbative aspects to the work: the first was working with tools from the last decade; the second was finding out, easily, quickly and in readily usable form, those advances which had recently occurred and which would be swiftly put to use.

This volume, the eighth in a series which has maintained both consistency and style throughout, includes major sections on file organisation and performance, software development for digital control and clustering analysis of data and its applications.

From a working analyst's point of view, the survey on file organisation is a clearly laid out guide to the principal recent developments in this field. The presentation is clear, lucid and compares the relative applications and uses of various file forms, including the four key structures of sequential organisation, direct organisation, indexed sequential organisation, and index tree structures.

Consideration and comment on the key structures is followed by further sections on the principal secondary file organisations. The final section of the book dealing with geometric modelling and its applications in medical design and production, as well as which is becoming increasingly important in many industrial organisations, is one of the better introductions around.

A book recommended to a worker in information science, is interested in keeping abreast of the field, in order to do his job better.

Kevin Cole

This Cobol feature often neglected

Structured Cobol Report Writer - A Programmer's Productivity Tool. Schechter & Yvko. Reston (Prentice Hall). £18.70.

THE case for using the Cobol Report Writer is advocated by the authors giving as evidence the production of efficient, maintainable, self-documenting programs.

The book is aimed at Cobol programmers and their managers, particularly in IBM/370 environments. It covers an often neglected

and optional feature of Cobol which is not present in all implementations.

Many example programs are developed in the text and claim to illustrate a structured programming approach and good style. After an introductory chapter, the second chapter aims to dispel some myths associated with the report writer and illustrates its use in the generation of a normal report. The main body of the book is

then divided into three parts: first examining the elementary report writer features; the second advanced features; and the third including a comparison of the 1974 and 1979 standards in the area of a guide to introducing the use of the report writer in practice.

A. J. P. Dean, Acting Dean of the Faculty of Science, Wolverhampton Polytechnic.

Info security plan will be useful to the DPM

Managing Information Security - A Programme for the Electronic Information Age. James A. Schweitzer. Butterworth. 133pp. £12.

DATA protection has been the subject of a debate in the UK since the early Seventies. Despite the recommendations of Professor Lindop and his team, the government is insistent on a low-budget, low priority treatment of the matter - some day.

In the meantime, the DP manager is left to decide for himself what level of protection to give his users' data.

Schweitzer's book should prove useful to managers contemplating the development of a total information protection scheme. The emphasis is very much on information security, rather than the physical security of the computer hardware.

The author develops his information security model using a three-dimensional matrix of computer user groups, levels of management directive, and levels of protection.

The five user group areas are business systems analysis and programming, research, and engineering/personal computing, office automation, data processing and telecommunications operations,

and time sharing/distributed computing.

After establishing a "three-tier" structure for different types of information, Schweitzer lists four rules of information security. The absolute necessity of corporate security programs is stressed, and detailed directives given.

Schweitzer has little time for risk analysis, which he considers an expensive exercise not justifying its cost. Instead, he stresses the value factor system as a more effective in providing security.

The information protection programme described in the book is developed and implemented by Schweitzer in his capacity as systems technology security manager for the Xerox Corporation. The only real fault is the author's writing style, which is generally rather stodgy.

Nevertheless, *Managing Information Security* is a welcome addition to the bookshelf of the DPM, particularly one concerned with the security implications inherent in the spread of microcomputers and office automation.

Alan Stevenson, Assistant Computer Manager, Banking and Dagenham Council.

James Martin below his best on viewdata

Viewdata and the Information Society. James Martin. Prentice Hall International. £23.95.

JAMES Martin possesses three of the best characteristics which typify Americans: he is an enthusiast, he is entertaining and he is a good presenter of complex technical material, particularly in terms of its likely effects on society.

In addition, Martin has been disconcertingly right in his prediction about technical product innovation. As early as 1968 he was saying that in 10 years computers would be experiencing a hobbyist boom. He was right.

His latest work on the two-way interactive system which he calls viewdata, and which will form the basis of the information society, comes at a time when the market is flooded with books on the topic.

One needs to be a gimlet-eyed as the Irish say, at apparent gift horses costing £23.95. Especially when they come without an index,

implying that the reader is to take the thumb of the writer's finger to read, or else?

So what do we get? Not much, that isn't in the Martin's excellent book on the Videotex Revolution, but a good deal less than logically expected material, for easy comprehension by, say, a person in the computer industry who has day by day familiarity with the topic.

There are far too many tables and lists, which "might" appear to be viewdata indexes. There are far too many pages with low quality photographs, which are not particularly relevant to the text. The text, where it occurs, is light and banal.

Not the best of James Martin's books, but a good enough to recommend to your friends outside the industry as a way of learning about viewdata, unless you are a fan of the author's style.

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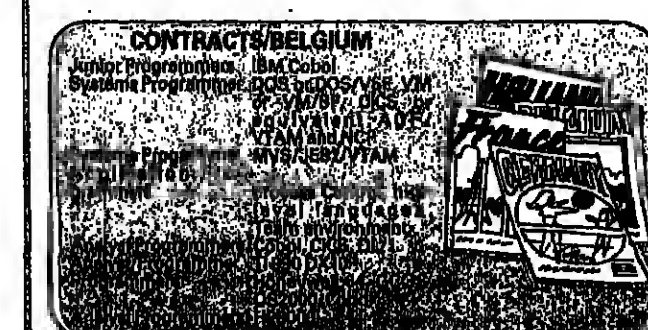
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Senior Programmers, Analysts and Programmers

Develop your career with one of the biggest computer users in Europe

Starting salaries up to £12,795

British Telecom is in the forefront of the computer world, and with 40 large computers in support of highly competitive and developing operations, we are one of the biggest computer users in Europe today. Our massive computer capability is based on IBM 370, IBM 3033, ICL System 4 and ICL 2900, plus hundreds of mini and micro computers including IBM 4331 and the latest in peripheral equipment.

Current opportunities.
We have a number of first-rate opportunities in programming and systems teams in the London area, Cardiff and Ipswich.

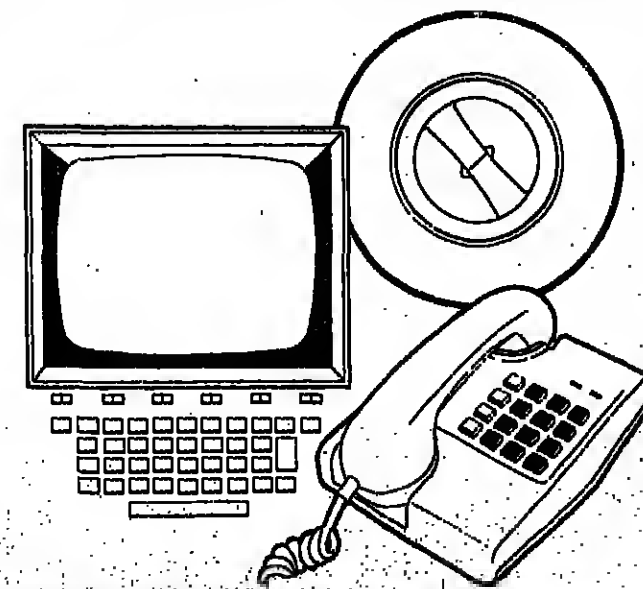
Across-the-board activities.
Our work covers all British Telecom activity - including Prestel, System X, Yellow Pages - with major emphasis on applications development. Experience of COBOL, USERCODE or ASSEMBLER is essential, gained on ICL or IBM mainframes or minis. Experience of IDMS under VME/B, DOS/VSE, database administration and design and transaction processing would be an advantage.

Specific Appointments.
Opportunities exist at two levels. For Senior Programmer/Analyst posts, you should normally have a degree (or equivalent), plus at least 3 years relevant

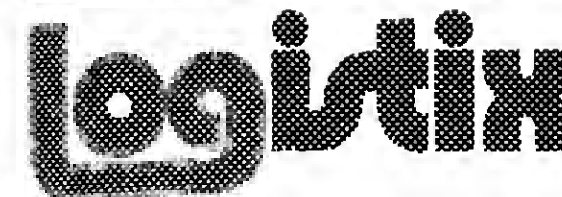
experience, preferably with a period in a supervisory capacity. For Programmer/Junior Analyst posts, you need at least 2 'A' levels (or equivalent), plus 18 months relevant experience. Some trainee posts may also be available for inexperienced but otherwise qualified applicants.

Salaries and benefits.
Depending on the level you join us, starting salary will be up to £11,580 - rising to £13,991; or up to £9,584 - rising to £11,986. (An additional allowance of £1,215 p.a. is added to Inner London postings.) Benefits include flexible working hours; up to 4 weeks 2 days holiday a year on starting; contributory pension scheme - and there are excellent prospects for promotion.

For further information and an application form, telephone Brian Foster in Cardiff on (0222) 490938 (reversing the charges); or write to him at British Telecom, Data Processing Executive, Room 303, Brunel House, 2 Fitzalan Road, Cardiff CF2 1YA.



British
TELECOM
Data Processing Executive



Logistix Recruitment Limited

10 Grenville Place, London SW7 4RW

Telephone 01-373 3063

UNIX Programmers

South Coast : Salaries to £10.5K

An internationally recognised Communications Equipment Supplier is seeking a number of UNIX Programmers for its technical software division on the South Coast. Suitable applicants should have at least two years' software development experience gained within a microprocessor-based environment. It is anticipated that you will offer fluency in at least one high level language with CorPASCAL being the most desirable. Of course an in-depth knowledge of the utilities offered by UNIX is essential. Working as a member of a multi-disciplinary team you will be involved in various applications which will include Telex, LANs, Packet Switching and public/private networks.

Ref. L147/A

Firmware Programmers

Thames Valley : Salaries to £11K

A small but rapidly expanding company has a number of vacancies for Firmware Programmers/Designers to join its product development group. Acting as the external development department for many of the leading names in the industry, the company is able to offer a wide range of hardware and software involvement. Suitable applicants will be graduates with a B.Sc. or M.Sc. in Electronic Engineering or Computer Science. It is essential that you offer fluency in Micro Assembler with additional knowledge of a block structured language such as Pascal or 'C', being desirable. Mostly based in-house you will be involved in the development of intelligent terminals, data capture equipment, multi-micro communications processors or ATE software.

Ref. L147/B

Micro Software

Central London : Salaries to £7.5K

A number of challenging opportunities have arisen with London-based Software Houses and Total Systems Suppliers for Applications and Software Programmers who graduated in 1981 or 1982. Generally you should have a first or second class honours degree in Computer Science, Electronics or Mathematics. Those who have completed a "thick" or "thin" Sandwich course and can offer a minimum of six months' programming experience with a commercial organisation are particularly encouraged to apply. Fluency in PASCAL or a Micro Assembler (and in some cases C under UNIX) is an advantage. Your academic project should have been biased towards financial development, interactive systems, networking or robotics/artificial intelligence.

Ref. L147/C

Process Control Software

E. Home Counties : Salaries to £12K

A major supplier of micro-based industrial control systems has a number of vacancies for Senior Systems Engineers with around five years' software design experience, gained in a distributed processing environment. Applicants should possess at least one degree and be fluent in an Assembler and either 'C' or Pascal. There is a strong preference for candidates with development experience on a Z80 or T19900 based system, although applications are also sought from those with hands-on experience of any leading MSDs. Excellent communications skills and the ability to clearly formulate product and system needs as well as project management abilities are highly desirable.

Ref. L147/D

Licensed by D.O.E.

Lic. No. SE 5913

Real-Time Programmers

Netherlands : Salary to £15K

A leading International Systems House and Turnkey Supplier is seeking to recruit a number of Software Programmers and Systems Engineers for permanent career positions commencing in January or February, 1983. Suitable candidates should hold at least one computer degree and have two years' software programming or systems engineering experience in an industrial environment. Candidates who have programmed in one or more of the following languages will be of special interest: MACRO 11, PASCAL, 'C', PL/M or CORAL. Hardware experience is less important but those who are currently in a development role on PDP-11/VAX, Argus, Intel 8086/Motorola 68000/68010 will attract a salary premium. Preliminary interviews will take place in our offices after which short-listed candidates will be invited to the Netherlands.

Ref. L147/E

Robotics Software

Home Counties : Salaries to £12K

A manufacturer of Robots and Industrial Automation products has a number of opportunities for Software Development Engineers to join its Research and Development facility. All candidates must offer a minimum of B.Sc. degree, preferably Electronics or Computer Science. Preference is likely to be given to those who have post first degree experience either within academia (M.Sc. or Ph.D.) or industry. All candidates should demonstrate an appreciation of the theory of robotics technology and also have a real desire to participate in the utilisation of robots within a mass production environment. You should have had previous exposure within one or more of the following specific areas: artificial intelligence, laser scanning, speech synthesis and image processing (object and shape recognition). Candidates should also possess good personal communication skills since there will be a certain amount of client demonstrations both in-house and on-site.

Ref. L147/F

Simulation Engrs.

Thames Valley : Salary to £12K

A long-established Engineering Systems Supplier based in the Thames Valley has an immediate requirement for additional FORTRAN Programmers and Simulation Engineers. You should hold at least one honours degree and be aged 23-30 years. Whilst the Company's software products are machine portable there is some preference for candidates who have programmed in a PDP/VAX, Prime, HP or GEC environment. Of greater importance are those who have very recent or current software design and applications programming experience with one or more of: guided weapons and missile control systems, LSI and hybrid circuit design, simulation and modelling of ballistic/dynamic systems.

Ref. L147/G

Compiler Development

London & H. Counties : Salaries to £14K

A major Systems and Software House has recently embarked on a large new project requiring the expertise of a number of Compiler Development Specialists. Suitable candidates will have participated in the development of either a Pascal or Ada compiler, preferably for 16-bit micros. Familiarity with all phases of compiler development is strongly desirable with particular emphasis placed on Code Generation and Optimisation. Whilst specific responsibilities will vary, depending on the ability and experience offered, all successful candidates will be involved from initial proposal stages through to the creation of a fully self-supporting compiler.

Ref. L147/H

Software Designers

Swindon : Salaries to £15K

The Swindon-based Research and Development facility of an international Systems Supplier currently requires a number of Software Designers and Project Leaders. Suitable applicants will be graduate graduates with a minimum of three years' software development experience in a microprocessor-based environment. Ideally you will have current or very recent experience in the design and development of a distributed electronic office system or a communications network. Of particular interest will be applicants who have gained software design expertise with multi-station word processors, personal computers (in an interactive mode) and/or Local Area Networks. Working in a dynamic environment you will be utilising the latest software techniques and opportunities for career advancement will be excellent.

Ref. L147/I

Systems Architects

N. Home Counties : Pkg. to £16K

A highly profitable computer manufacturer has a most interesting and unusual opportunity within its Development Department. To assist in the development of their new generation of machines they require a Senior Systems Software Engineer, with a minimum of seven years' complex development experience. Familiarity with a number of block-structured languages is desirable, as is knowledge of multi-processing systems. Specific responsibilities will include the definition, implementation and maintenance of Systems Software; the development of a strategy for coping with applications languages in a multi-processor environment and the co-ordination of the activities of a number of project teams. Whilst extremely demanding, this position offers the successful candidate the opportunity to spearhead totally new developments in the field of Systems Architecture.

Ref. L147/J

Comms. Consultants

Inner London : Salaries to £20K + Car
A highly regarded consultancy having its Headquarters in the City is seeking several Senior Communications and Strategy Consultants. Ideal applicants should be aged 28-35 years and be educated to at least B.A. or B.Sc. standard. You will be expected to have a thorough knowledge of at least two of the following: office automation systems and networking; data or voice communications; systems analysis, design and systems management (IBM orientated); market and product research; to include both surveys and the assessment of market requirements. Good personal communication skills are of paramount importance since you will be expected to make presentations at board level and to prepare reports and recommendations to existing deadlines without supervision. Fluency in a foreign language, specially French or German, is a welcome asset. You must be prepared to travel both nationally and internationally.

Ref. L147/K

Pascal Programmers

Home Counties : Salaries to £10K

The Research and Development division of a leading multi-national corporation requires a number of Programmers to assist in the development of both Applications and Systems Software. All respondents should possess a degree or H.N.C. in a relevant discipline followed by at least two years in industry. A minimum of one year's development experience on either Intel 8080/5 or Z80 based systems, preferably running under C/P/M or UNIX is essential as is fluency in Pascal. A knowledge of prototyping techniques and an Assembler language are useful supplementary skills and will attract a salary premium.

Ref. L147/L

Systems Software

Herts./Beds. : Salaries to £14K

The Communications and Networking Division of a leading Turnkey System Supplier has a number of outstanding career opportunities for Software Engineers and Programmers within its recently established research and development facility. All candidates must be educated to B.Sc. or H.N.C. standard and have subsequent commercial/industrial experience amounting to three years. Of interest to the Company will be those who have software and systems design experience with a packet switching or networking product and in particular of communications prototyping techniques - X-25, SDLC/HDLC. Certain positions will be exclusively in-house based whilst others will entail a support role. A salary premium will be paid to those who have participated in the enhancement or optimisation of a UNIX or UNIX look-alike operating system.

Ref. L147/M

(175)

Contractors

UNIVAC 1100 PROGRAMMERS

We have forthcoming requirements for UNIVAC 1100 COBOL Programmers at five sites. TIP, DMS useful but not essential for all jobs. Long term contracts December or January starts. Contact Roger Radford or Richard Jones on 021-643 4700. Telex: 337045

Compuhire

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LONDON AND THE SOUTH

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THE COMPANY
DAYA SCIENCES INTERNATIONAL LTD is a successful and well-established computer services company with over 20 years' experience of selling Commercial Business Systems.

THE JOB
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THE PERSON
A successful background of Computer System Sales is necessary, along with a good general knowledge of both Commercial Business Systems and the current range of ICL computers.

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Forward-thinking people who know they have the right background, aptitude, attitude and determination to reap high rewards, should telephone or write immediately to:

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Please send brief C.V. or telephone
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Fleet Business Systems
Fleet Lang House
32-36 Fleet Lane
London EC4M 6YA
TEL 01-248 0350



THE METYCLEAN GROUP OF COMPANIES

SOFTWARE DEVELOPMENT PROFESSIONALS

COMPUTER AIDED DESIGN CAMBRIDGE

As one of Europe's leading specialist centres dedicated to computer aided design, CADCentre can offer an exceptional chance to develop in one of today's rapidly growing technologies.

At present we have a number of opportunities for able and enthusiastic men and women in the following areas:

PROJECT MANAGER... SOFTWARE DEVELOPMENT ENVIRONMENT

To lead and direct a team responsible for the specification, implementation and maintenance of a Software Development Environment. Based on the Centre's Prime computer network, this facility will assist and support the development of large CAD systems written in Fortran, with rationalisation of existing software tools and development of new ones as required.

GINO PRODUCT MANAGER

To be responsible for the support and development of graphics software products based on GINO-F and for their marketing and commercial exploitation. This will involve management of a team of pro-

grammers and considerable liaison and negotiation with customers and agents.

SENIOR PROGRAMMERS & PROGRAMMERS

To join teams working on a variety of projects including development and support of utility software, database management software and other software tools; development and support of systems software; and implementation and support of graphics software on microcomputers.

Applicants for all positions should have a good degree in Mathematics or a science discipline and a strong background of technical software development in Fortran. For some of the Programmer positions, experience of assembly level programming is desirable but not essential.

In addition to competitive salaries we can offer excellent opportunities for rapid career development in a professional and technically demanding environment.

If you are interested in this growth opportunity, please phone Terry Palmer on Cambridge (0223) 34848 or write with a c.v. to Mrs Pat Oughton, CADCentre, Madingley Road, Cambridge CB3 0H8.



Computer Aided Design Centre

(1774)

DEPARTMENT OF COMPUTING AND MICROPROCESSING APPLICATIONS

PRINCIPAL LECTURER IN INDUSTRIAL COMPUTING

£11,931-£15,018

Persons with considerable research experience in at least one of the areas of methodologies of systems analysis and design, networking, real-time operating systems and languages, on-line control and instrumentation, parallel processing systems or engineering databases are invited to apply for the above post. Previous teaching experience is desirable but not essential. The successful candidate will be eligible for election to the Professoriate if suitably qualified.

LECTURER GRADE II/ SENIOR LECTURER IN COMPUTING

(DATA PROCESSING AND SYSTEMS) £8,965-£12,316

Candidates should have extensive experience in industrial or commercial practice with particular reference to data processing, systems analysis and design. Experience in the fields of database or real time systems would be welcome.

Further details and form of application from the Staff Officer, Trent Polytechnic, Burton Street, Nottingham NG1 4BU. Closing date 10 December 1982.

(1801)

TRENT POLYTECHNIC NOTTINGHAM

SENIOR ANALYST/ PROGRAMMERS

- * COMMERCIAL Systems design
- * BASIC Programming
- * MICRO/MINI Systems
- * Use of DISKETTES
- * USER Contact
- * 3 YEARS' experience

We are looking for a number of Specialists who match most of the above experience requirements.

We are expanding Software houses and require people able to design and develop Systems for individual clients and for general use as packages.

Likely candidates will have the ability to learn new machines and languages quickly and will be flexible in their approach to work. They will also be able to work on their own.

The position offers a basic salary together with bonuses and other benefits related to experience and performance. If you are interested and feel you suit this environment then please call:

ERIC DICKINSON or RICHARD BAKER on (0114) 2337 or write to: R.B.S. Computers Ltd., Woodfield House, 125-126 Farnham Road, Teddington, Middlesex.

Finance Department ANALYST/PROGRAMMER

(2 Posts) AP/3/5/573-£8,325

The Job

Development from specification to implementation of new systems centred on an ICL ME/28 configuration with communication and terminal links and using MTS and TME/TP facilities.

The Person

You have - design/implementation experience of on-line systems - 18 months' Cobol programming background - preferably experience with ICL-based hardware and software.

There are excellent conditions of service in an attractive part of Suffolk.

For an application form and full details contact the Personnel Officer, Courneil Office, Melton Hill, Woodbridge IP12 1AU. Telephone: Woodbridge (0843) 3786, Ext. 343.

Closing date: 9th December, 1982. Interviews 18th December, 1982. (1771)

Suffolk Coastal District Council

URGENT CONTRACTS

IBM MVS MARK IV
IBM MVS/308
DOS/VSE COBOL CICS DL1
HP 3000 (Image query)
VAX FORTRAN (Database)
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DG MV 5000 FORTRAN (Solent)
FORTRAN/TOTAL
P.1 IMS (DB/DC)
HP 1000 FORTRAN (GRAPHICS)
UNIVAC 1100 COBOL

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NOW!!

(1774)

Software Support Specialist to £15K + CAR

Applied Data Research is the world's leading systems software vendor, offering the most innovative on-line products available to IBM DOS/VSE and MVS installations.

As a result of increased activity throughout Europe, ADR is now seeking to recruit an additional DOS Software Support Specialist who will be based in brand new premises in a pleasant, North Herts market town.

The ideal candidate could come from a number of backgrounds, such as systems programming, technical support or applications with a bias towards systems software.

The job involves all aspects of supporting our current and prospective customers and includes pre and post sales support, product installation, problem handling, customer training, product demonstrations etc. on a wide range of products including:

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The Librarian®
ADR/ETC®

Full product training will be given, which is likely to include visits to Europe. In addition to attractive salaries and superb prospects, ADR offers a company car, non-contributory pension scheme with life assurance, family BUPA, five weeks annual holiday, a company bonus scheme and re-location assistance.

If you feel that you have the necessary qualities to succeed in this prestigious and highly professional organisation, call Mick Chivers (Customer Support Manager) on Hitchin (0462) 55353 or write to him at the address below.

Applied Data Research Ltd., Portmill House,
37-40 Portmill Lane, Hitchin, Herts. SG5 1DJ.

(1794)

ADR

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As part of our System-Software development and consultancy services carried mostly at our clients' sites, we offer

DB/DC ASSEMBLER-PROGRAMMERS

excellent opportunities to demonstrate their capabilities

We appreciate your existing knowledge and experience, but at the same time we provide a continuous training programme.

To discuss your further career plans, call or write to:

Fred Jaster, Managing Director

APOLLO GmbH

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Tel: 010 (49.21 01) 2.81.81

(1794)

CONTRACTORS

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IBM SYSTEM 34 SSP RPG2 (SOUTH MIDLANDS) PROGRAMMERS
URGENT - IBM MAINFRAME UNIPAY +/- CICS

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POP 11/70 RSX 11M MACRO 11 FORTRAN
BURROUGHS 6800 MCP COBOL GEMCOS OMS2
HP 1000 ASSEMBLER FORTRAN
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DPSB DM4 COBOL
BURROUGHS 6800 (JANUARY START)
DATA GENERAL RDOS COBOL
MDTDOLA 6800 PASCAL
VAX 11/78 COBOL
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CMC DATABASIS (WEST MIDLANDS) PROGRAMMERS
COMMODORE PET (WEST MIDLANDS) PROGRAMMERS
MINI/MICRO CORAL ADA OR MACSCOT EXPERIENCE SOFTWARE
ENGINEER WITH MILITARY REAL-TIME EXPERIENCE
ENGINEER WITH VLSI TECHNOLOGY EXPERIENCE GHENT/
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CTL

SYSTEMS ENGINEER (Hardware)

to £13,000 + Car

an I.T.L. Information Technology Company

Since the company's formation in 1966, Computer Technology Limited, have seen a substantial growth and established market leadership in the field of transaction orientated minicomputers. This success has created a requirement for an adaptable and self motivated Systems Engineer who will be responsible for preventative and corrective maintenance of a CTL system sited on customer premises. Applicants should have a minimum of three years' experience in a mini or mainframe environment and ideally have a relevant qualification or equivalent forces training in electrical/electronic engineering. In addition to an excellent salary and benefits package, CTL will provide a company car.

LOCATION: CENTRAL LONDON

JAS09/1

ACTS

PROGRAMMERS

Top Salary

ACT Services Limited, an established container transportation company are continuing their development of large documentary and associated commercial systems. The company would like to hear from self-motivated Senior Programmers capable of taking a leading role in these developments and with the ability to work within time scales. The successful candidate will work closely with analysts and should have around three to four years' experience in a large mainframe environment, preferably Burroughs, supporting Cobol. In addition to salary a comprehensive relocation package is available to suitable applicants as well as a range of benefits normally associated with a large organisation.

LOCATION: HAMPSHIRE

JAS09/2

dp

Confidential Reply

SOFTWARE ENGINEERS SOFTWARE PROGRAMMERS

to £9,500

Our client has a world wide reputation for designing, building and installing integrated software and engineering systems. Opportunities have arisen for Software Engineers and Programmers from a mini/micro environment to work on display and data handling systems for advanced technical applications. Software Engineers should have about four years' experience including programming, systems design and implementation gained in a senior role. Involvement with real time applications would be preferable. Software Programmers should have about two years' experience including Assembler or a high level language. Program specification and systems appreciation would be an advantage. Company benefits are generous including flexible working hours, relocation and five weeks' holiday.

LOCATION: ESSEX

JAS09/3

TYMSHAREUK

PROGRAMMER

to £10,000 + Car

Tymshare, an international computer services company, are establishing a support group for IBIS, their highly successful Banking System. A Programmer is required to carry out customisation and implementation of the product to individual customer requirements. The post involves a high degree of client contact and the successful candidate will enjoy a key role in a group which will expand rapidly. Applicants should have a minimum of two years' Basic + or Basic + 2 gained under VAX/VMS or RSTS. A knowledge of banking systems would be particularly advantageous. In exchange Tymshare offer a highly competitive salary and company car after a qualifying period.

LOCATION: CENTRAL LONDON

JAS09/4

dp

Confidential Reply

DATABASE TECHNICAL SUPPORT

£ excellent

A well known drinks manufacturer have a ground floor opportunity within a new database administration function being set up to design, implement and support a large IMS DB/DC system. Candidates, if not experienced will be trained in all elements of Database Administration and Data Dictionary Control. Applicants should have a solid DB background and an interest in a database technical support role. A knowledge of DB/DC or Teradata is desirable but not essential as training will be provided. This position offers an excellent salary, which is in a range according to experience, and a benefits package normally associated with a successful organisation.

LOCATION: ESSEX

JAS09/5

dp

Confidential Reply

RECRUITMENT CONSULTANTS

To continue our expansion, we are seeking additional consultants. You may currently be experienced or wish to develop your career - whichever, we are interested in talking to you. Remuneration will exceed your current earnings. For an informal discussion ring Thomas Kay or dip the coupon below and we will be in touch.

LOCATION: WEST LONDON

JAS09/6

Action..

ring or send the coupon to
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Freepost, London W3 2ST
01 567 5501

Name _____
Address _____
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I am interested in... _____

Applied Communications Inc., a US Corporation with offices located in key centres in the USA is a major Systems House specialising in on-line systems on Tandem Non-Stop Computers. ACI has installed more than fifty sophisticated switched networks, a significant proportion of which are in the Financial sector. The UK subsidiary is expanding both its Products and Systems Divisions. The Products Division specialises in the definition, specification of requirements, system configuration, testing, installation and subsequent support of comprehensive software packages aimed at the Banking, Financial and POS markets. The Systems Division develops customised solutions to client requirements from Project Initiation through to Customer acceptance. These, too, are Tandem Non-Stop Implementations.

ACI has the following specific vacancies:

Senior Analysts £12000-£14000

We require Senior Analysts to work on the implementation of large Transaction Authorization systems based on a comprehensive end sophisticated package operating on Tandem equipment. Applications are in Electronic Funds Transfer, Point of Sale and Retail Distribution Networks. Assignments include Analysis and Specification of Requirements, System Configuration, File Specification and Custom Application Program Specification. Involvement is from project initiation through to installation and testing. In some cases, a Team Leader role will be undertaken. Applicants should have approximately 8 years Programming/Analysis experience with specific skills acquired in at least one of the following:

- Interactive Transaction Processing
- Database Design
- Communications Network Analysis
- Systems Programming
- Finance and Banking Applications

All appointments may involve travel to client sites which are usually within the local area, although flexibility to work on specific assignments for extended periods away from home will be an important consideration. This could involve travel to the US or other worldwide destinations. Full training on Tandem Systems will be provided and there will be opportunities to work in other areas of the Company.

To discuss your future career with Applied Communications, telephone Alan Maxon or Chris Peat on 01-423 2131. During evenings or weekends telephone Alan Maxon, Whippsnade (0682) 873106 or Chris Peat, Walton-on-Thames (09322) 22644 or write to: Manager, Customer Services, Applied Communications Ltd, 1-9 Peterborough Road, Harrow, Middlesex HA1 2AZ.

ACI applied communications
the company with the right connections

Systems Programmers £11000-£13000

These appointments are for Programming staff to work on Custom developed software systems implemented on Tandem equipment. Typical applications are Hotel Reservations Systems, Electronic Funds Transfer Systems, Integrated Message Switches, Videotex services. Our Systems Programmers are involved in System Specification, Program Design and Implementation, System Integration, Testing and Customer Installation. Minimum qualifications are 4 years Systems programming experience in at least one of the following areas:

- Communications Software
- X.25 Implementations
- Operating Systems development
- Message switching applications

The Centre For Computer Studies Singapore

Director—Rodney Shaw

Additional ACADEMIC STAFF are required for May 1983, or an earlier date if desired, to support the continuing development of the CENTRE FOR COMPUTER STUDIES which was established in September 1982 within Ngee Ann Polytechnic, Singapore. The Centre's principal function is to provide an HNO in Computer Studies courses with an annual intake of 200 students.

DUTIES AND QUALIFICATIONS: Candidates should be capable of lecturing at HNO level and able to offer one or more of the following specialist areas:

- Computer Systems Architecture
- Computer Communications and Networks
- Database Theory and Practice
- Distributed Systems/Teleprocessing
- Microcomputers and Small Business Systems
- Real-time Systems
- Structured Programming using Cobol
- Systems Analysis and Design

Candidates should also be academically well qualified with appropriate professional and lecturing experience. Appointments at senior staff levels require several years' experience at PL or SL level within a Polytechnic or College of Technology.

TERMS AND CONDITIONS OF SERVICE

A generous package of salary plus allowances, including accommodation and children's schooling, will be negotiated with each successful candidate. Contracts will be initially for two or three-year periods of appointment. Salaries up to £20,000 per annum are available for senior staff appointments.

APPLICATIONS:

Further particulars of the posts and application forms may be obtained by telephoning 01-550 05722, extension 41, or writing to Overseas Educational Appointments Department, The British Council, 80-81 Tottenham Court Road, London, W1P 0DT, quoting reference 82A 115-118. The closing date for applications is December 20, 1982, with interviews taking place in London during the middle of January 1983.

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Programmers with at least 2-3 years' experience in real-time microprocessor assembler programming.

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Project engineers with experience in controlling a project from initial order stages to final despatch and installation, with the technical and commercial requirements are met in the contract time scale.

We will certainly pay you your worth and provide a range of fringe benefits normally associated with an international company. If you can fulfil the above requirements and want a challenging job, please Mr. Bob Drummond on Hextley (0481) 27447 or write to him at VIDEOM LIMITED, New Town Road, Hextley, Thames, Oxon.

Imperial Cancer Research Fund ANALYST/ PROGRAMMER

Imperial Cancer Research Fund require an analyst/programmer to work on a microcomputer-based medical system in their extra-mural unit at Guy's Hospital. Experience in any of the following would be useful: CP/M operating system, BASIC, PASCAL, database work, £3,000 to £3,800. For job description and application form ring Mrs. Hester, 407 7830 ext. 208, or write to her at ICRF Great Cancer Unit, Guy's Hospital, London, SE1 8RT. (1810)

CHESHIRE COUNTY COUNCIL COMPUTER PROGRAMMER FOR EDUCATIONAL PROJECT

This is a temporary post - full-time from 1st January to 31st July, 1983.

A programmer is required at Great Sankey High School, Warrington, to work with a team of teachers under an MEP funded project to produce five packages of Educational Software for the BBC micro-computer. Experience of micro-computers and machine code programming would be an advantage.

Salary at a rate of £5,800 p.a. Apply by letter to: The Headmaster, Great Sankey High School, Barrow Hall Lane, Great Sankey, Warrington, Cheshire.

Closing date 29th November, 1982. (1810)

UNIVERSITY OF LONDON MANAGEMENT SYSTEMS DIVISION Computer Operator

(Initially two-shift, gross salary £6773-£7301) under review. A vacancy exists in the Computer Installation Unit for a Computer Operator with a minimum of 18 months' experience, notably on ICL equipment.

The post holder would be required to work two shifts, although eventual transfer to three shifts is not precluded. The installation comprises 2 ICL 2966 Processors with 11 200 job discs, 6 MT, ALP and a range of other devices. The system is run under DMS/2. In addition to the ICL machines, some other computers are installed. A large computer network service is provided. Computer users spread throughout London.

The successful applicant will receive a salary in the range £6448 with a 10% shift premium. A London Allowance of £2,000 is payable in addition. The salary scale is subject to annual review.

Applicants should telephone 044 596 4444 extension 2744 between the hours of 10am to 12.30pm or 2.30pm-5pm and ask for the Operations Team Leader.

Senior Programmer and Systems Analyst

Surrey/Sussex Borders to £12,000 A motor company located in a pleasant town on the Surrey/Sussex borders require two additional people for their ICL 2866 installation. The Senior Programmer should have 3 years' Cobol experience with a Real-time and batch background. The Systems Analyst should have 5 years' Commercial Systems experience some on-line knowledge and a programming background.

Senior Programmer

City of London c. £10,000 A financial investment company have an excellent opportunity for a Programmer with at least 3 years' experience Cobol and OL/I are essential requirements for the position and the successful applicant will work a Database administration. The position is flexible enough that it could also suit someone who wishes to become a Programmer/Analyst.

Senior Programmer/Analyst

Middlesex to £12,000 A Senior Programmer/Analyst is required by a well known UK company in West London. Five years' Cobol experience with two years of CICS are the essential requirements. A knowledge of Analysis and design is necessary also the candidate will work on a variety of commercial and manufacturing systems which are run on an IBM 4341.

Systems Analyst and Programmers/Analyst

Central London £7,500 to £13,000 An international oil company requires two experienced computer professionals for their London Data Centre. The Systems Analyst should have five years' experience working on an IBM System 3/4 at which 2/3 years should have been using CICS/Cobol. The Programmer/Analyst should have 1-3 years' MVS - JES2 using Cobol. A knowledge of CICS RTI would also be very helpful.

All the above opportunities include permanent positions and carry a wide range of salaries and positions depending on location and experience. In the first instance please send us a copy of your CV (alternatively telephone for application form) so that we can discuss your application in confidence with our client on your behalf.

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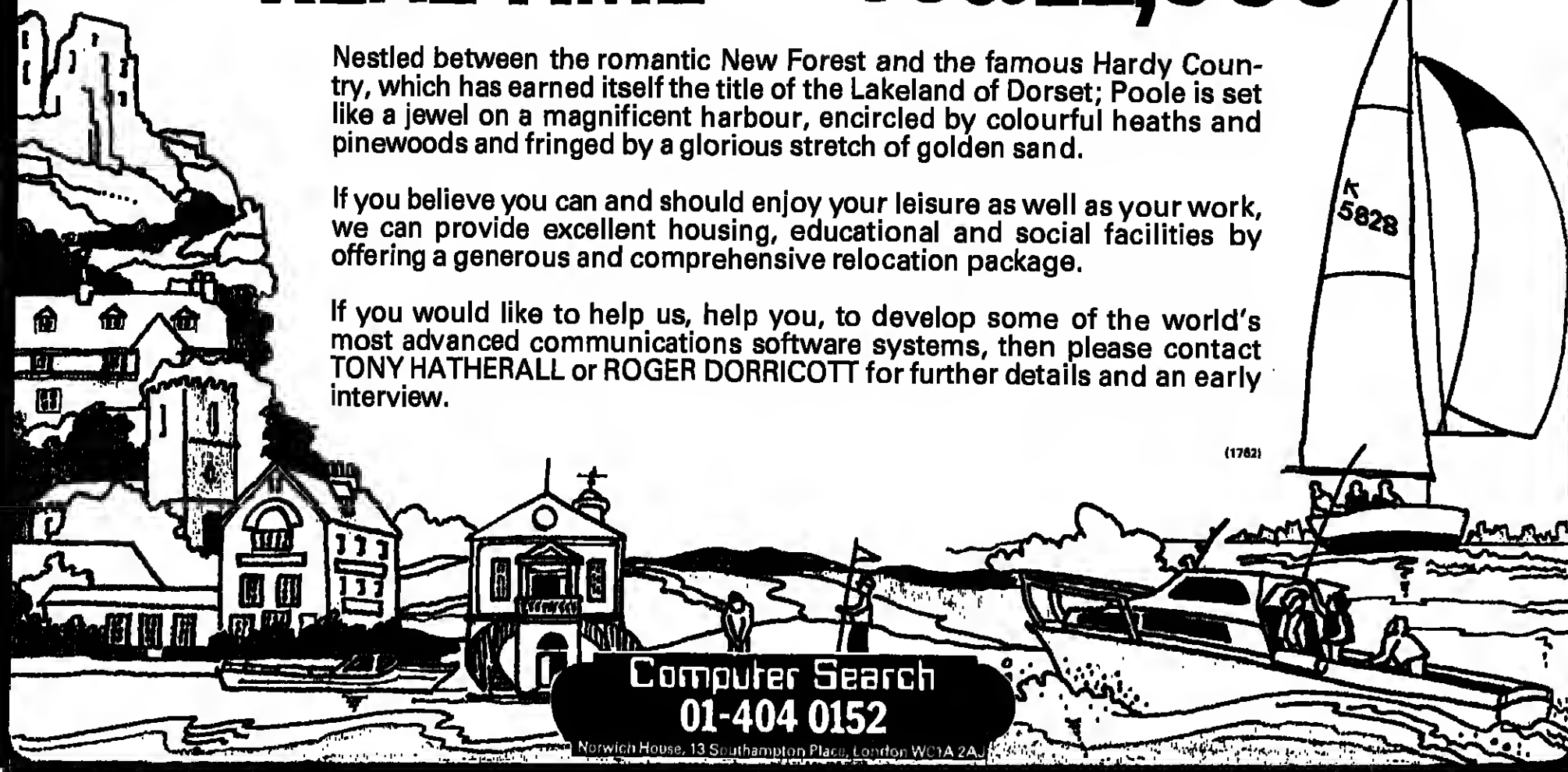
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Communications software expertise gained within an IBM environment, utilising large network technology is required, specifically knowledge of VTAM/NCP internals, and ideally additional software such as TPNS, NPDA, NCCF.

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If you wish to share our success, contact our Advising Consultant Peter Lees on 021-236 8781 (24 hour answering service) or 0902-632141 (Evenings and Weekends). All applications will be treated in the strictest confidence and interviews will be held in Birmingham, Manchester, and London.

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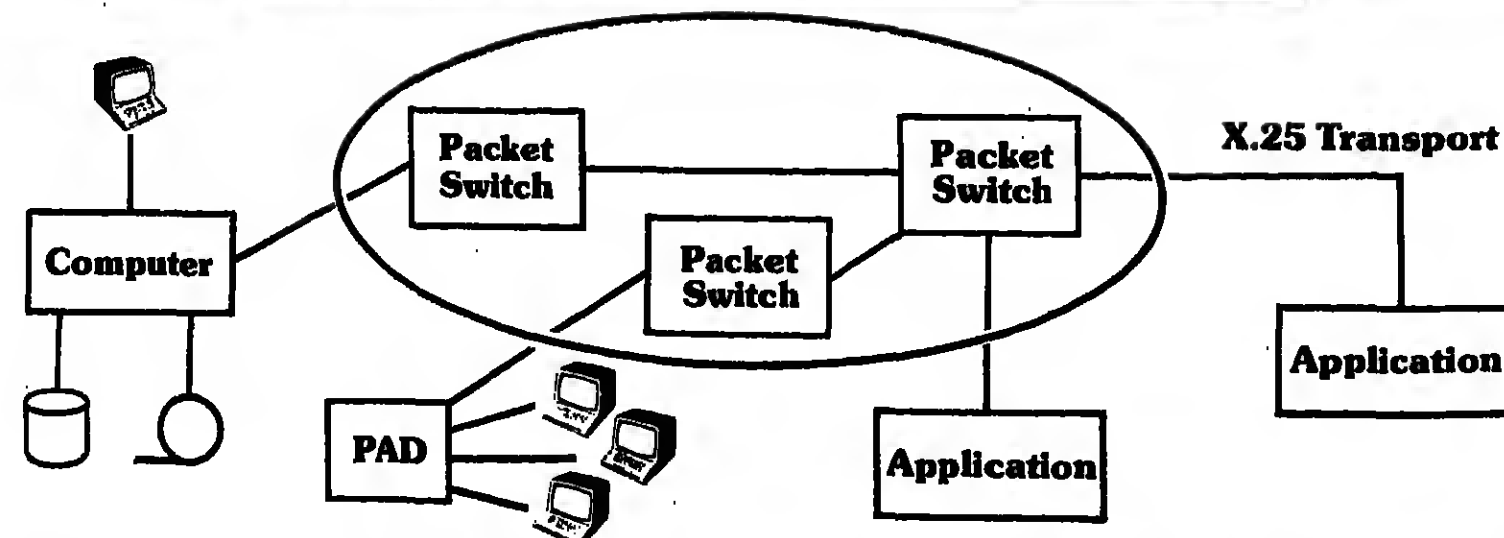
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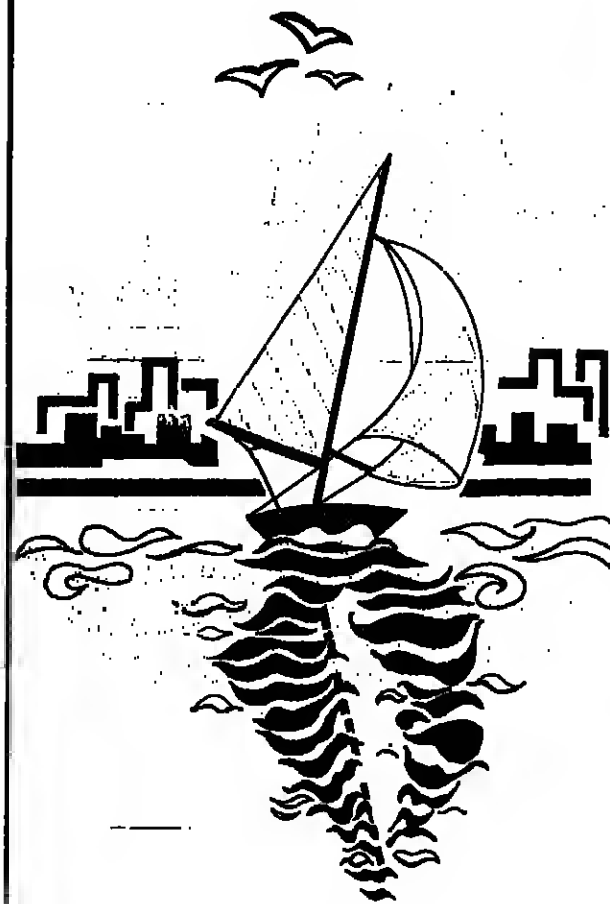
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Applicants should have an extensive commercial EDI background with considerable experience in the development of computer-based business systems. This should include project management, systems analysis and experience of database applications.

QUALIFICATIONS: A degree in data processing or equivalent relevant experience is essential. A higher degree and teaching experience are desirable.

CONDITIONS OF SERVICE: A copy of the College's Conditions of Service, together with the relevant Information Statement on the position and the Department will be forwarded on receipt of application.

APPLICATIONS: Application, in duplicate, including full personal details, age, previous appointments, qualifications, present position, the names and telephone numbers of three referees, and the position, should be addressed to:

The Recruitment Officer
Darwin Community College
PO Box 40148
Canberra NT 8792
Australia

Initial enquiries regarding the duties of the position may be directed to Dr L. H. Greenwood, Head of the School of Business and Administration, at (068) 204448.

Closing date: 17 December 1982

(1774)

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(1780)

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Qualified to degree level in Maths or Computer Science (or Military recognition as a systems programmer), applicants must have at least five years practical experience as a systems programmer and a close familiarity with planning, designing, developing and commissioning radar and data handling software systems. Your knowledge should include Marconi MYRIAD user code, LOCUS data code one end another high level language.

In return we offer a salary of £27,000 for a 2 year assignment, together with an attractive range of benefits which include: free accommodation, food and laundry; three paid leave periods per year with return flights to the UK; medical and life insurance and excellent sports and recreational facilities.

For further details please contact the Senior Recruitment Executive (Lockheed), IAL, Personnel Consultancy, Aeradio House, Hayes Road, Southall, Middlesex, UB2 6NJ. Tel: 01-574 5000. Please quote ref. L199.



HEREFORD & WORCESTER COUNTY COUNCIL Worcester Technical College Department of Business Studies

Lecturer in Computer Science

Applications are invited for the above post which will involve teaching to a wide range of courses including GCE 'O' and 'A' Level, BEC/TEC and City and Guilds. The ability to offer the teaching of some mathematics would be an advantage.

Applicants must possess a degree or a professional equivalent qualification preferably with commercial, industrial and/or teaching experience.

The post is available from 1st January, 1983, or as soon as possible thereafter.

SALARY: Lecturer Grade II — £23,885-£21,022 (position on scale is dependent upon experience)

Further details and an application form can be obtained from: The Principal, Worcester Technical College, Deanway, upon receipt of a stamped addressed envelope.

(1817)

BOX NUMBERS

Box number replies should be addressed to:

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(1818)

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LECTURER I

IN DATA PROCESSING, Department of Business Studies and Management. The post holder will be responsible for the design and development of computer-aided design (CAD) systems for the design of integrated circuits. The post holder will be required to develop and maintain a high level of expertise in the design of integrated circuits and to be able to communicate effectively with a wide range of user staff.

Salary: Lecturer Grade I — £23,885-£21,022 (position on scale is dependent upon experience)

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(1817)

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Please forward your résumé to:
Box 1233 COMPUTER WEEKLY
Interviews will probably take place in London around mid-December.

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Please write or telephone for an application form to: Mr. R. W. Jones, Personnel Officer, Glaxo Group Research Limited, Greenford Road, Greenford, Middlesex, UB8 3HE. Tel: 01-422 3434, ext. 2702, quoting ref. 462.

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AND
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This job is available to both male and female applicants

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This post is on the salary scale of £5,557 per annum rising by six annual increments to £6,871 per annum, the point of entry being determined by qualifications and experience. There is a contributory Pension Scheme and other benefits include Lunchroom Vouchers, free car parking, 28 days' annual leave and a subsidised staff restaurant. Application forms may be obtained from the Personnel Manager, The Associated Examining Board, Wellington House, Station Road, Aldershot, Hampshire, (Tel: Aldershot 25551), to whom they should be returned marked 'Private and Confidential', not later than Friday, 3rd December, 1982.

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This post offers the successful candidate the opportunity to widen further experience to all aspects of developing and implementing computer systems and of running a computer installation. Assistance with housing and relocation expenses may be available subject to local agreement conditions.

Write or telephone for an application form, returnable by 10 December 1982, to: Personnel Officer, Cumbria Constabulary, Police Headquarters, 100-102, Farnham, Cumbria CA16 2AL. Tel: 0766 64411 (ext 2188).

(1720)

Analyst/Programmers Real-Time Systems + Technical Writer (Hardware/Software) (Wokingham, Berkshire)

The Person

You should have a good degree in Computer Science and a minimum of two years' experience of real-time systems on mini-computers, PASCAL, COBOL, ALGOL or ASSEMBLER. Experience in hardware and software development, program specification, design and systems analysis would be a definite advantage.

The Job

You will design, implement and document real-time software to run on 16 bit microprocessor based autonomous and networked computer systems. The processor is the Motorola 68000 device and development work will be on a PDP11/44 and the Motorola development system. The systems will perform machine control and test and the handling operations on a scale normally associated with large multiple mini-computer installations. Systems will communicate via a high-speed local area network.

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Please apply to Miss C. P. P. Protel, Protel Computer Systems Limited, Station Road, Wokingham, Berkshire RG40 2JY. Telephone: 0734 765449.

Protel

SALES BIT

Quality of Management—32

Keep those meetings entertaining

IF sales meetings are to be worthwhile they must result in participants departing with greater enthusiasm to sell the company's products than before they went in. This means that such events should be staged (and I use that word deliberately) only when they are required, with preconceived objectives in mind and presented in an entertaining manner.

The classic sales formula for the structure of a sales call, AID (Attention, Interest, Desire), is applicable to the formulation of a sales meeting with desire interpreted as the will to go out and sell.

If a sales meeting cannot capture the attention and interest of its participants it is far more profitable for all concerned to be out in the field instead.

When should a sales meeting take place? There are two factors to take into account: justification and timing. First there has to be a reason.

The fact that a sales meeting has hitherto taken place on the last Friday of every month is no justification for another one this month. There has to be a positive reason - new product announcement, competitive situation, special presentation, sales training session, and so on.

Notice that this brief list does not include administrative matters. Most topics of this kind are best dealt with separately; certainly those affecting individuals or small groups as opposed to the sales force at large. Even administrative matters affecting everyone should never be the basis for a sales meeting but rather a brief side issue accompanying a significant sales or marketing event.

Timing is rather more difficult and to some degree depends on the size and distribution of the sales force. What makes it more difficult is the fact that there are always good reasons for not having a sales meeting at any time you care to think of. If the chosen time isn't eating into prime selling time it's cutting into personal time.

I prefer Friday afternoons because of all selling time it is the part of the week that a significant proportion of salespeople are psychologically conditioned

against in terms of a successful selling activity. For many the week ends start on Friday lunchtime with plenty of flak and camouflage to prove otherwise!

Saturday mornings have a lot to recommend them, away from the pressure of people and telephones and worrying about what else one could be doing if one was not tied up in a sales meeting.

However, the venue and fringe benefits have to make it worthwhile in the salesman's eyes. The sales office and a Wimpy isn't a fair exchange for keeping people away from their own free time. Something like a country club with a first-class lunch followed by the opportunity of sporting activity and a free bar at least tells everyone the company appreciates that it is taking up precious time that the individual would normally have to himself; even if only in bed!

Finally, there is the content of the sales meeting. Leaving the event to fate in the form of a predominance of subjects introduced by the participants themselves under the heading of "Any other business" is truly courting disaster. How can a sales manager expect to control a meeting when he has made no preparation for the greater part of the topics involved?

If a sales meeting is to succeed it must be subject to considerable thought and thorough pre-preparation. It must have variety of pace, real interest for all concerned and, if at all possible, elements of surprise so that those in the back row cannot, and do not wish to, fall asleep, become engrossed in *The Times* crossword or page three of their favourite tabloid.

Maybe this sounds difficult - after all the meeting is being staged by a sales manager not an impresario; but many things can be done to put some sparkle into the event. It is a well established fact that one of the strongest forms of education is via the means of entertainment, so entertaining it has to be.

Next week I hope to give you some ideas that will not get you into show business but should raise the interest value of your future sales meetings.

Alan Williams

PUZZLE ANSWER

LET X be the number of persons and Y the number of houses. Now, the method of calculation obviously involves an arithmetical progression.

The sum of such a progression equals the average of the first and last terms (22 and 227 in this case) multiplied by the number of terms (Y). Therefore we can set up the equation $Y(22 + 227) = X + 100 = 24Y$, from which we find that $X = 23Y - 100$.

Analyzing this result, it is clear that X must be

family has the same number of people in it. Furthermore, X (and hence the expression $23Y - 100$) is positive.

But for all the values $Y = 5$ or less, and $Y = 18$ or more, the expression $23Y - 100$ is negative. Therefore, Y must be a whole number between 6 and 17. This, and other, restrictions show that only when $Y = 10$ is the corresponding value (30) of X exactly divisible by Y. The conclusion is therefore: there are 30 houses, with three people in each house.